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PACIFIC PULP & PAPER INDUSTRY

Volume 5
Number 3

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A LOGGING SCENE IN WESTERN WASHINGTON

MARCH + 1931

LIQUID CHLORINE

TACOMA ELECTROCHEMICAL CO. KEYSTONE BRAND TACOMA, WASH. SUBSIDIARY PENNSYLVANIA SALT MFG. COMPANY

ACIDS
ALUMS
ALUMINAS
CAUSTIC SODA
LIQUID CHLORINE
BLEACHING POWDER
GREENLAND KRYOLITH
SODIUM HYPOCHLORITE
AMMONIUM PERSULPHATE

THE distributing facilities of the Pennsylvania Salt Manufacturing Company besides being nation wide are highly specialized. Tank car equipment and containers are maintained in perfect condition to assure prompt service and safety to customers.

Liquid Chlorine and Caustic Soda are available the country over on short notice due to the strategic location of Penn Salt plants.

The carefully developed qualities of service which the Pennsylvania Salt Manufacturing Company has fostered have been added to the high quality of Tacoma Electrochemical Company Liquid Chlorine and Caustic Soda.

TACOMA ELECTROCHEMICAL COMPANY

TACOMA, WASHINGTON

WESTERN DIVISION OF PENNSYLVANIA SALT MANUFACTURING CO.

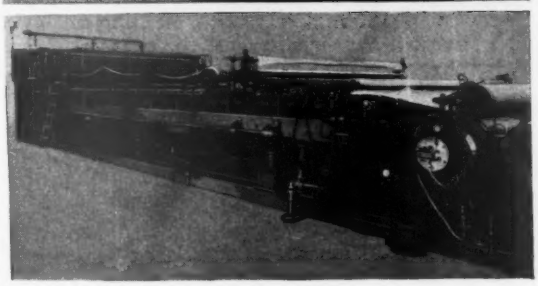
Pacific Pulp & Paper Industry is published once a month—except in March, when publication is semi-monthly—at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, $4.00; other countries, $5.00. Entered as second class matter May 20, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879.

"BELOITS" MAKE TISSUE AT CROWN WILLAMETTE

Fruit Wrappers on the BELOIT

THE BELOIT Removable Fourdrinier and High-Speed Shake is utilized by the famous Crown-Willamette mills for making millions of fruit wrappers.

Fruit thus wrapped is protected and preserved. Fruit growers secure better prices, and the public gets a better, more uniform and dependable quality of fruit. Wrapping makes trade-marking possible—and identification of product protects both the grower and the public.



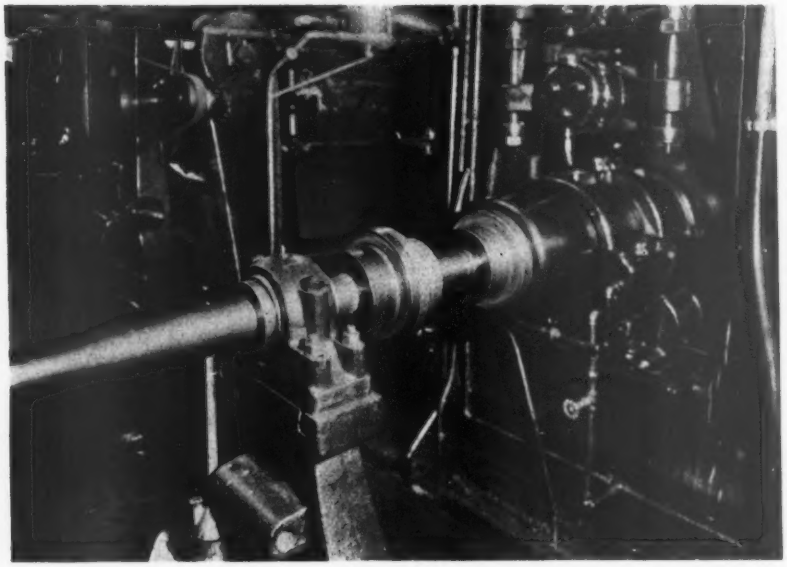
Beloit Yankee and Fourdrinier machines are universally utilized for making many kinds of specialty papers besides fruit wrappers. Increased production, low cost operation, dependable performance and advanced engineering enable "Beloit" owners to earn maximum dividends on their investments. Write us about your problems, too.

The *Beloit* Way is the *Modern* Way

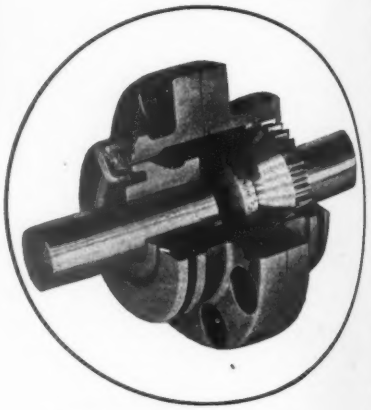
BELOIT IRON WORKS, BELOIT, WIS., U. S. A.

The BELOIT

COUPLING SHUTDOWNS BANISHED *by* CROWN-WILLAMETTE MILL



The three new paper machines in the Crown Willamette Mill at Camas, Washington carry spiral bevel gear drives with a Fast Self Aligning Coupling on each drive shaft. 18 Shafts and 18 Fast's Self Aligning Couplings.



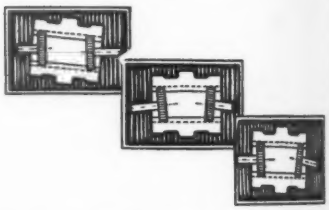
Fast's Coupling Banishes Coupling Shutdowns

HOW? By eliminating lacings or flexible pins, bushings, springs, discs or grids. Failure and repairs are made a thing of the past.

Note the diagrams. A spur gear on each shaft end. A floating sleeve with internal gear teeth meshing with the spur gears. When one shaft turns, the sleeve turns, the other shaft turns, and the entire misalignment is taken up between the lubricated faces of the gear teeth. Simple, isn't it?

There is nothing to break down. No flexible materials to fail and be replaced. By using this simple principle coupling shut-downs become as rare as the dodo bird.

Send for the free pamphlet, "Solving Coupling Problems in Paper Mills", which gives full details of all the many types of couplings which are eliminating shut-downs on all types of mill drives.



The Jordan Coupling

In the free pamphlet is shown Fast's Jordan Coupling, based on the "no flexible materials" principle and built to provide 12 inches of plug adjustment by merely releasing four draw-bolts. Do not fail to send for the free pamphlet.

FAST'S *Self-Aligning* COUPLING

GET FREE PAMPHLET

The Bartlett Hayward Company
227 Scott Street • • • Baltimore, Md.

Please send me the free pamphlet on "Solving Coupling Problems in Paper Mills".

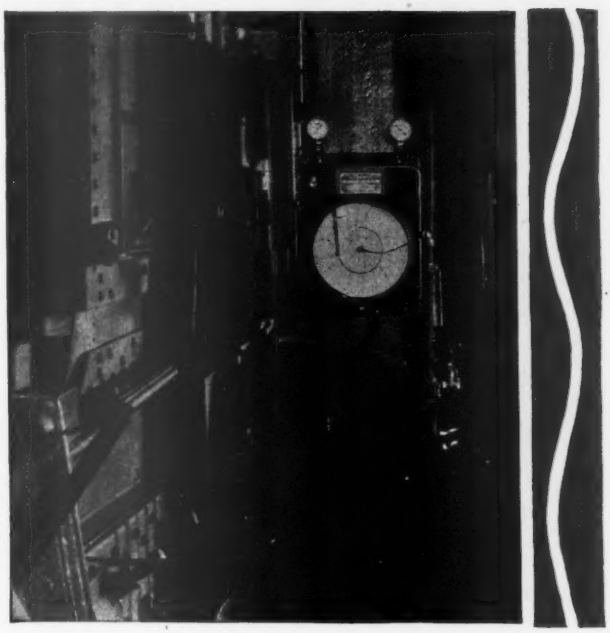
*Name*_____

*Name of Mill*_____

*Address*_____

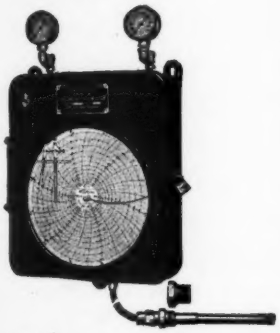
It Was Considered Impossible » » » »

But *Tycos* not only *Records* Grinding Temperatures—It *Controls* them » »



Tycos

Recording Temperature Regulator



This instrument is set to control at any temperature by the turn of a key. On the grinder application shown above a record is given of grinding temperatures which are regulated within 1° variation.

NOT long ago, the chairman of a committee appointed to report on the subject of "Variables in Ground Wood Manufacture" stated that "Information of great value would be developed by a study of stock temperature during the grinding process if some method of measuring the grinding temperature could be found."

This application had been considered by engineers as "a hard nut to crack." Attempts had been made . . . and failed. Grinder operators had had to throw out expensive equipment that was supposed to do the job . . . but didn't. Some said a satisfactory installation was impossible.

The *Tycos* Recording Regulator on the grinder above has been in successful operation for over 9 months in a large Canadian mill, controlling the temperature of the stock leaving the stone **within one degree variation** and giving a continuous chart record of great value to the operators.

This installation (patent applied for) assists in producing stock of uniform texture, freeness, strength and general high quality. Too high or too low temperatures are prevented and longer life is given to the stone. Workmen's time required to watch the pulp and operate hand valves is saved and the job done infinitely better.

And these are not all the advantages! Write for a copy of *Tycos* Catalog 6 on the Paper and Pulp Industry.

Taylor Instrument Companies
Rochester, N. Y., U. S. A.

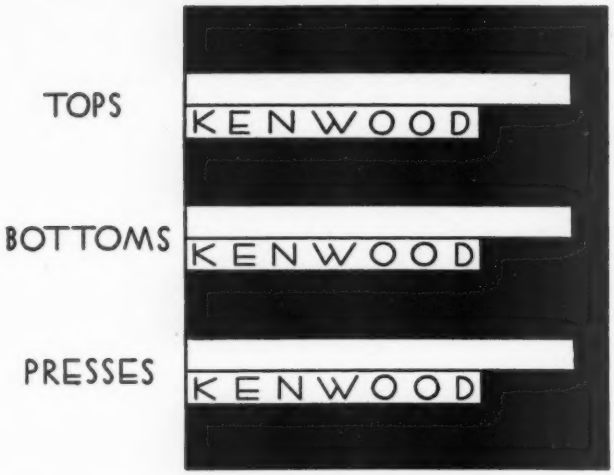
IN CANADA
Taylor Instrument Companies
OF CANADA, LTD., TORONTO

MANUFACTURING DISTRIBUTORS
IN GREAT BRITAIN
SHORT & MASON, LTD., LONDON, E-17

Tycos Temperature Instruments

INDICATING - RECORDING - CONTROLLING

LOW COST -- RESULTS DEMONSTRATE THAT THERE ARE DISTINCT ECONOMIES IN KENWOOD TANNED BOARD FELTS



The new Kenwood Tanned Board Felts (Tops, Bottoms and Presses) used in conjunction with each other provide a combination with demonstrable economies. In addition to Lower Felt Cost Per Ton, this clothing shows other performance advantages through greater strength, increased openness, smoother running and longer life.

Today's Improved Kenwood Tanned Felts (wets and presses) are the result of progressive, scientific development. Kenwood pioneered the one-sided board felt. The same research service developed and perfected the Kenwood Tanning processes which protect the felt from the deteriorating effects of acids in the water. A third major development is the new Kenwood method of yarn construction which, while adding neither to the weight nor the size of the yarn, provides increased openness and strength for the felt.

KENWOOD WOOL PRODUCTS

F. C. HUYCK & SONS

KENWOOD MILLS, ALBANY, N. Y.

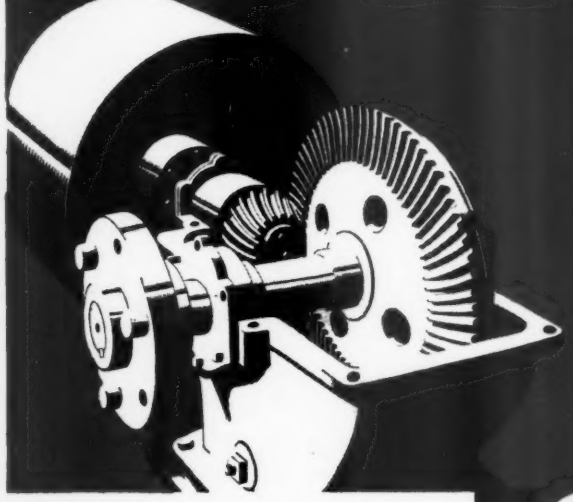
KENWOOD MILLS LTD., ARNPRIOR, ONTARIO, CANADA

KENWOOD FELTS

FULL FINGER TIP CONTROL

...and SUCH Control

SIMPLE



with

BAGLEY & SEWALL

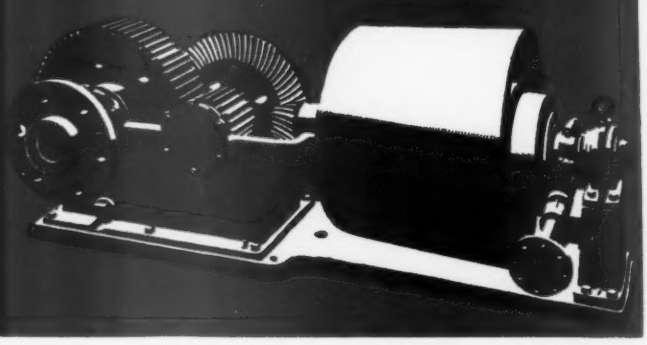
All Metal

Spiral Bevel Gear

DRIVES

Modern drives that provide a degree of simple, positive, precise operation and control never before attained. Two types and four sizes serve every paper machine need with complete satisfaction.

COMPOUND



Compact **— requiring but one-quarter the floor space of old type drives of equivalent power.**

Vibrationless **— minimizing broke and wear on wires, felts and rolls.**

Full Lubrication **— gears completely immersed in oil, with splash feed to all contacts.**

Velvety Starting **— through positive clutches of either magnetic or multiple disc type.**

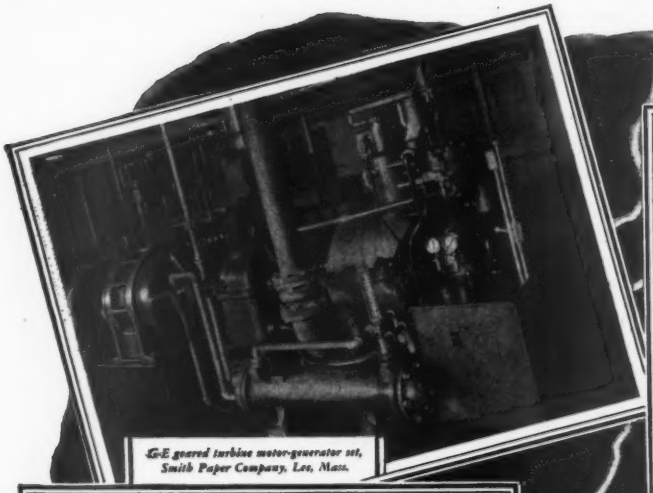
Anti-friction Bearings; Sturdy Stands; **and *Efficient Performance* that in one representative installation has reduced maintenance costs $1650 a year per machine.**

Quickly installed as units or complete systems, without interrupting production. Write for full details.

The Bagley & Sewall Co.

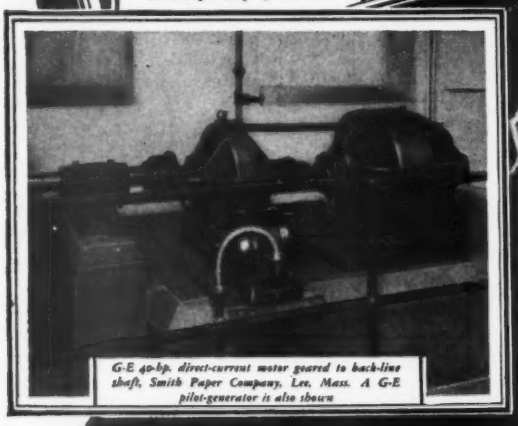
Watertown, N.Y.

57



G-E geared turbine motor-generator set, Smith Paper Company, Lee, Mass.

G-E rewinder drive and control for Fourdrinier paper machine, Smith Paper Company, Lee, Mass.



G-E 40-hp. direct-current motor geared to back-line shaft, Smith Paper Company, Lee, Mass. A G-E pilot-generator is also shown

When Lightning Hits the Line--

Your mill goes on making paper!

A new General Electric development—a dual drive consisting of a mechanical-drive turbine and a synchronous motor makes this possible.

Normally a synchronous machine and a direct-current generator operate under a balanced load condition with the turbine. If for any reason, power from the outside line is removed from the synchronous motor, an instantaneously operated, automatic device causes the turbine to carry the entire load until service is resumed. There are no disturbances to the drive— no extra "wash-ups" — no lost hours.

Your nearest G-E office will gladly give you more detailed information

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING, ON A NATION-WIDE N.B.C. NETWORK

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GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

Satisfactory Service!

at Your Command

PAPER MILL MACHINERY

For Your Particular Requirements

The Undercut Trimmer

An Automatic Clamping Cutter, conceded the BEST Trimmer for THE PAPER MILL, replacing other makes of cutters where accuracy and strength are a factor in efficient production with minimum cost of maintenance. Equipped with motor or pulley drive, and safety starting device as desired.

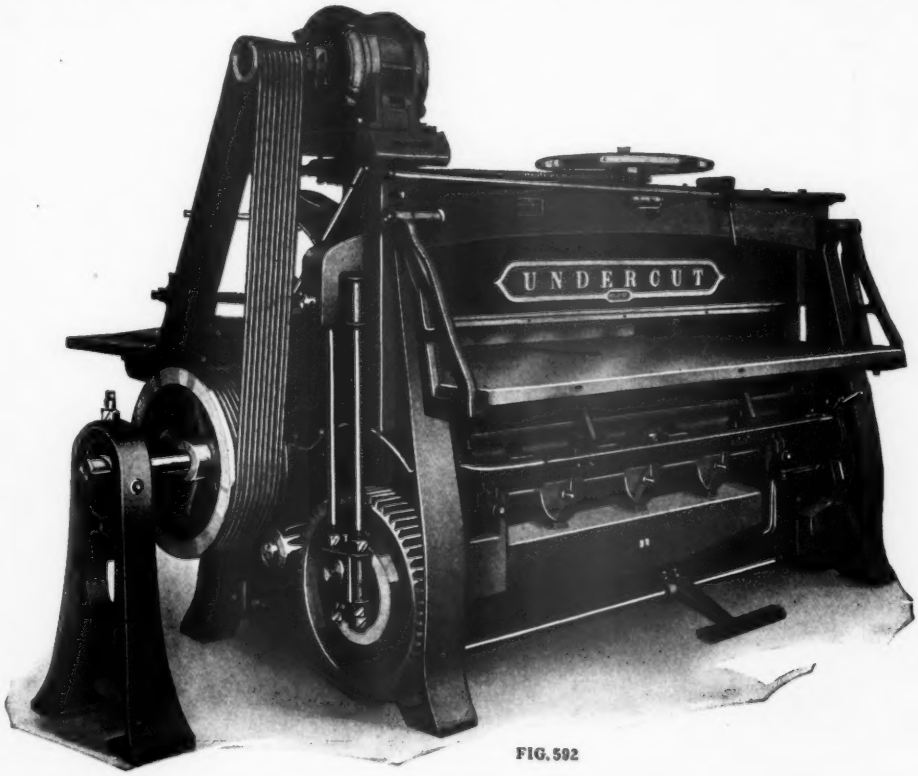


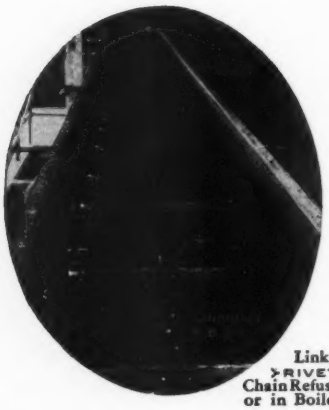
FIG. 592

THE SMITH & WINCHESTER MFG. CO.

Dept. MFP, SOUTH WINDHAM, CONN.

— PAPER BAG MAKING MACHINERY —

LINK-BELT
Conveyors and Chain Drives



Link-Belt
>RIVETLESS<
Chain Refuse Conveyor in Boiler House.

From big logs to clean chips—modern equipment speeds production in this new mill

WOOD moves fast in this new mill (name upon request). Operations are continuous and must proceed without a hitch. And all along the line, from the top of the log haul to the chip bins over the digesters, Link-Belt conveyors and chain drives keep production moving smoothly.

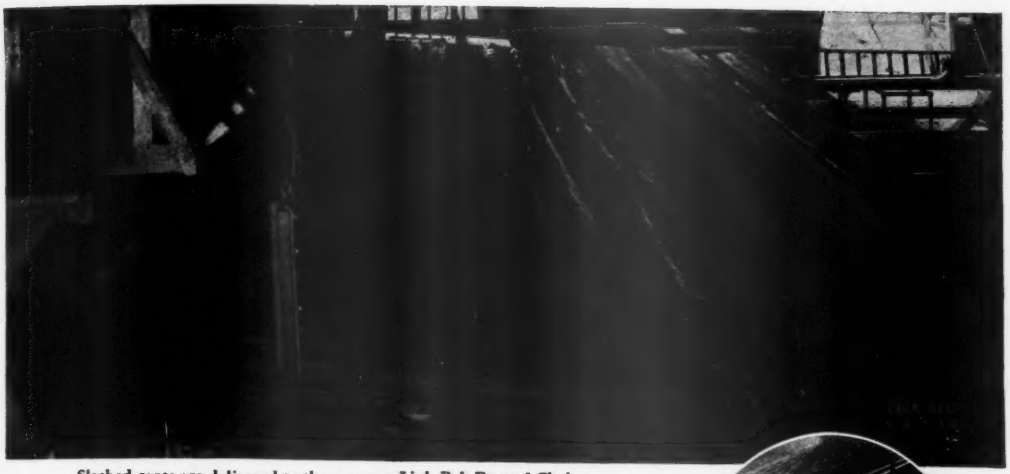
The illustrations here show but a part of the Link-Belt equipment in the mill. Included in the installation are Link-Belt Anti-Friction Belt Conveyors, Automatic Tank Tripper, Chain Elevators and Conveyors, Transfer Tables, Flight Conveyors, many Chain Drives, and numerous accessories.

Link-Belt builds a conveyor and a drive for every class of service; and, by reason of long contact with the industry, can offer valuable help in the selection of the right equipment for every job. Write nearest office for catalog.

Transfer skids equipped with Link-Belt Steel Chain. Spiked rolls driven by "C" Class Combination Chain

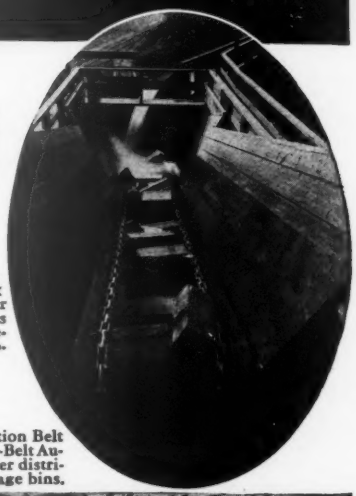
LINK-BELT

in another Pacific Coast Mill



Slashed cants are delivered to the gang on Link-Belt Promal Chains.

Left: Picking table conveyor over chippers composed of three strands of Link-Belt Promal H-480 Chain.



Right: Link-Belt >RIVETLESS< Chain Conveyor receiving blocks from flume and delivering to chipping plant.

Link-Belt Anti-Friction Belt Conveyor and Link-Belt Automatic Tank Tripper distributing chips to storage bins.

LINK-BELT COMPANY

Leading Manufacturers of Equipment for Handling Materials Mechanically and for the Positive Transmission of Power

CHICAGO, 300 W. Pershing Road INDIANAPOLIS, 200 S. Belmont Avenue PHILADELPHIA, 2045 W. Hunting Park Avenue

LINK-BELT COMPANY, PACIFIC DIVISION

San Francisco, 400 Paul Ave. Los Angeles, 361 S. Anderson St. Seattle, 820 First Ave., S. Portland, Ore., 67 Front St. Oakland, 526 Third St.

4294

CONVEYING AND POWER TRANSMITTING EQUIPMENT

When writing LINK-BELT COMPANY *please mention* PACIFIC PULP & PAPER INDUSTRY

48″ x 132″ COUCH TYPE SULPHITE DECKERS with stock and white water spouting and patented battery drive installed in the NEW SULPHITE MILL of the CROWN WILLAMETTE PAPER COMPANY, at CAMAS, WASHINGTON

Improved Paper Machinery Corporation

NASHUA, NEW HAMPSHIRE

SHERBROOKE MACHINERIES LIMITED
Sherbrooke, Quebec, Canada

Save-alls	*Centrifugal Screens*	*Reclaimers*
Thickeners	*Reed-Spafford Screens*	*Washing Machines*
Filters	*Tailing Screeners*	*Special Machines*
Knotters	*Screen Plates*	*Cylinder Moulds*
Deckers	*Couch Rolls*	*Repair Parts*

FALK

. . . a Good Name in the Lumber Industry!

BACK some twenty years, the name Falk on power transmission units meant much . . . Today, after nearly a quarter century, this name is synonymous with the highest quality and efficiency in speed reducers not only in the logging field, but in all of Industry.

From every viewpoint—Falk Speed Reducers—both right angle and parallel shaft—are stamped with quality . . . they utilize the famous Falk Precision-made Gears which are specially cast and cut by a patented process exclusive with Falk. Falk Speed Reducers have 100% overload capacity for starting and emergency loads . . . they are dirt-proof, noiseless, free from heat and vibration.

It Pays to Consult Falk First!

THE FALK CORPORATION — MILWAUKEE

Manufacturers — Herringbone Gears, Speed Reducers, Flexible Couplings, Steel Castings and Oil Engines.

Note These Features

Excessive capacity—unnecessary to buy oversize reducers . . . . Made in standard sizes and carried in stock for immediate shipment . . . . All wearing parts are interchangeable and renewable. The entire construction is simple and accessible . . . . Patented splash system of lubrication . . . . No male and female shafts, bushed gears or overhung studs. Highest possible efficiency, maintained throughout life of reducer.

Carried in Stock on the Coast in a wide range of sizes and ratios by

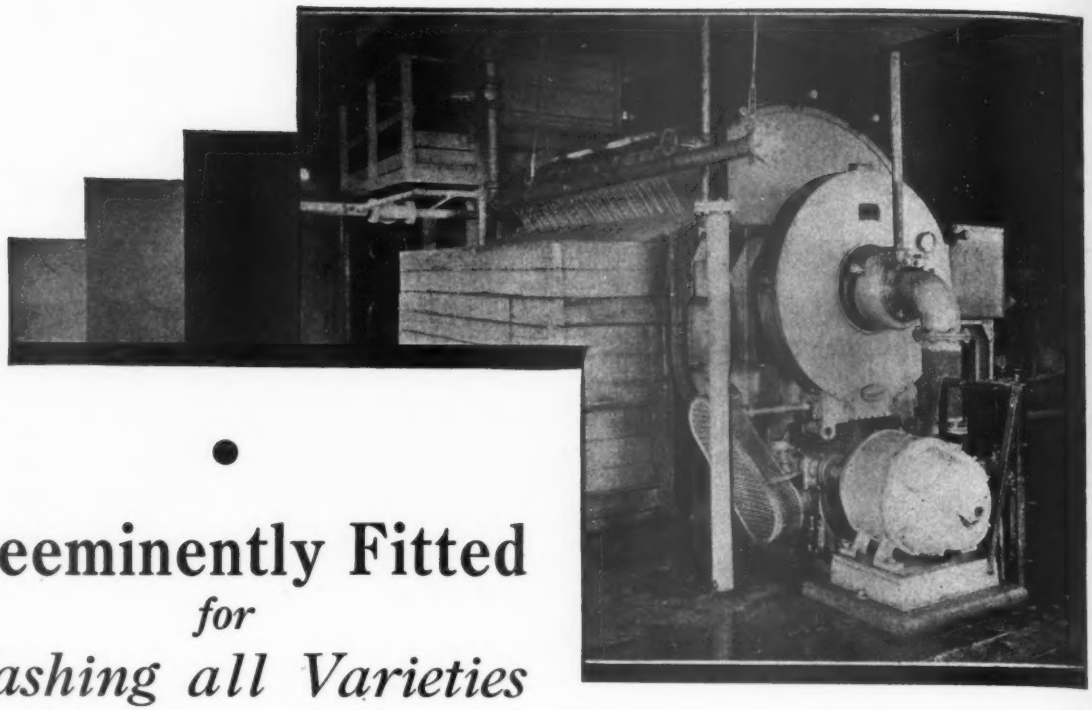
THE PRESCOTT CO.—Seattle

FALK ENGINEERING & SERVICE OFFICES

San Francisco
7 Front Street

Los Angeles
930 Rowan Bldg.

FALK SPEED REDUCERS



Preeminently Fitted
for
Washing all Varieties
of Brown Stock . . . Either Soda or Kraft

. . . black liquor sent to evaporators hot and highly concentrated making large savings in fuel.

. . . stock delivered to beater chest uniformly washed down to lowest point due to easy and close control.

. . . all fibers removed from black liquor.

. . . small building space required.

. . . economic in labor.

THESE ADVANTAGES of Oliver Brown Stock Washers account for the sale of scores of units.

They account for the sale of two large units recently made for washing kraft stock in a southern mill.

The mill that washes its stock on the Oliver Brown Stock Washer is operating at the maximum efficiency and with minimum cost.

OLIVER UNITED FILTERS INC.

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Federal Reserve Bank Building

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CHICAGO
565 Washington Blvd.

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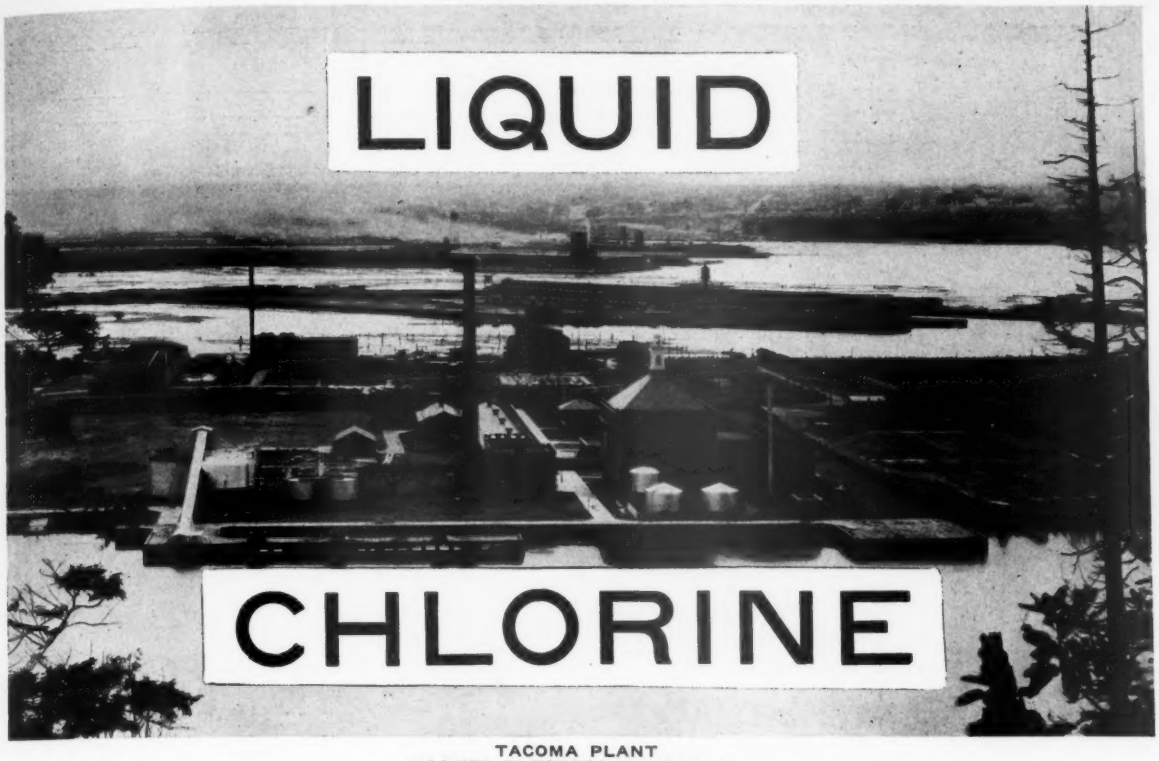
MANILA — The Edward J. Nell Co.
STOCKHOLM, SWEDEN — T. An Tesch



TACOMA PLANT
HOOKER ELECTROCHEMICAL CO.

READILY AVAILABLE

WITH THE LARGE, MODERN HOOKER PLANT LOCATED AT TACOMA, WASHINGTON, YOUR LIQUID CHLORINE NEEDS CAN BE MET PROMPTLY AND EFFICIENTLY BY SPECIALISTS IN THE USE OF CHLORINE. THE HOOKER TECHNICAL AND RESEARCH STAFF ARE READY TO ASSIST AND ADVISE IN ANY TECHNICAL OR OPERATING PROBLEMS.

HOOKER MANUFACTURING AND RESEARCH FACILITIES ARE AT YOUR SERVICE. ALL INQUIRIES WILL RECEIVE PROMPT ATTENTION AND DETAILED CONSIDERATION.

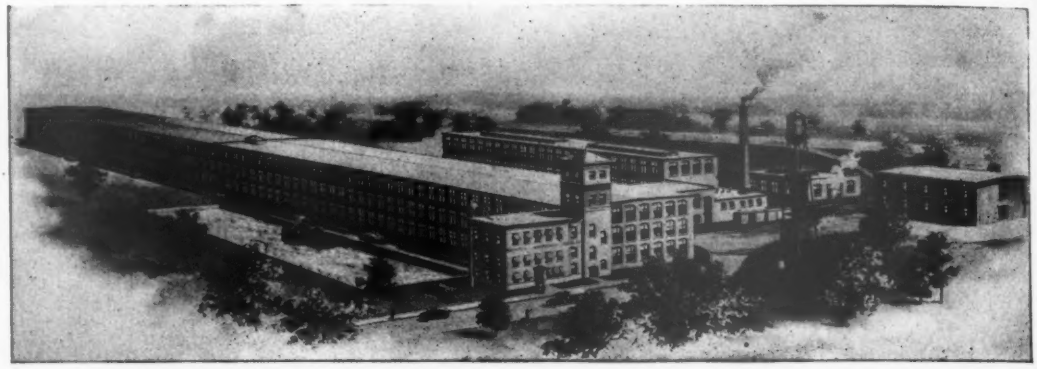
HOOKER ELECTROCHEMICAL COMPANY

WESTERN
PLANT—TACOMA, WASHINGTON
SALES OFFICE:
TACOMA, WASHINGTON

HOOKER HE CO ELECTROCHEMICAL

EASTERN
PLANT—NIAGARA FALLS, N. Y.
SALES OFFICE:
60 EAST 42ND ST., NEW YORK

HOOKER CHEMICALS



THE HOME OF ALBANY FELTS

TISSUE FELTS *for*

Onion Skin
Waxing
Condenser
Fruit Wrap
Cigarette
Anti-Tarnish
Facial
Crepe
Pattern
Toilet
Napkin
Carbon
Manila
Insulating
Wrapping
Sulphite
Manifold
Stereotype
Kraft
Wadding
Toweling
and
Specialties

ALBANY FELTS

• • • FOR TISSUE

In the manufacture of any kind of tissue papers, the felts are of vital importance to successful operation—and dozens of tissue mills, both in this country and abroad, have found that the use of Albany Felts has added immeasurably to the efficiency of their machines.

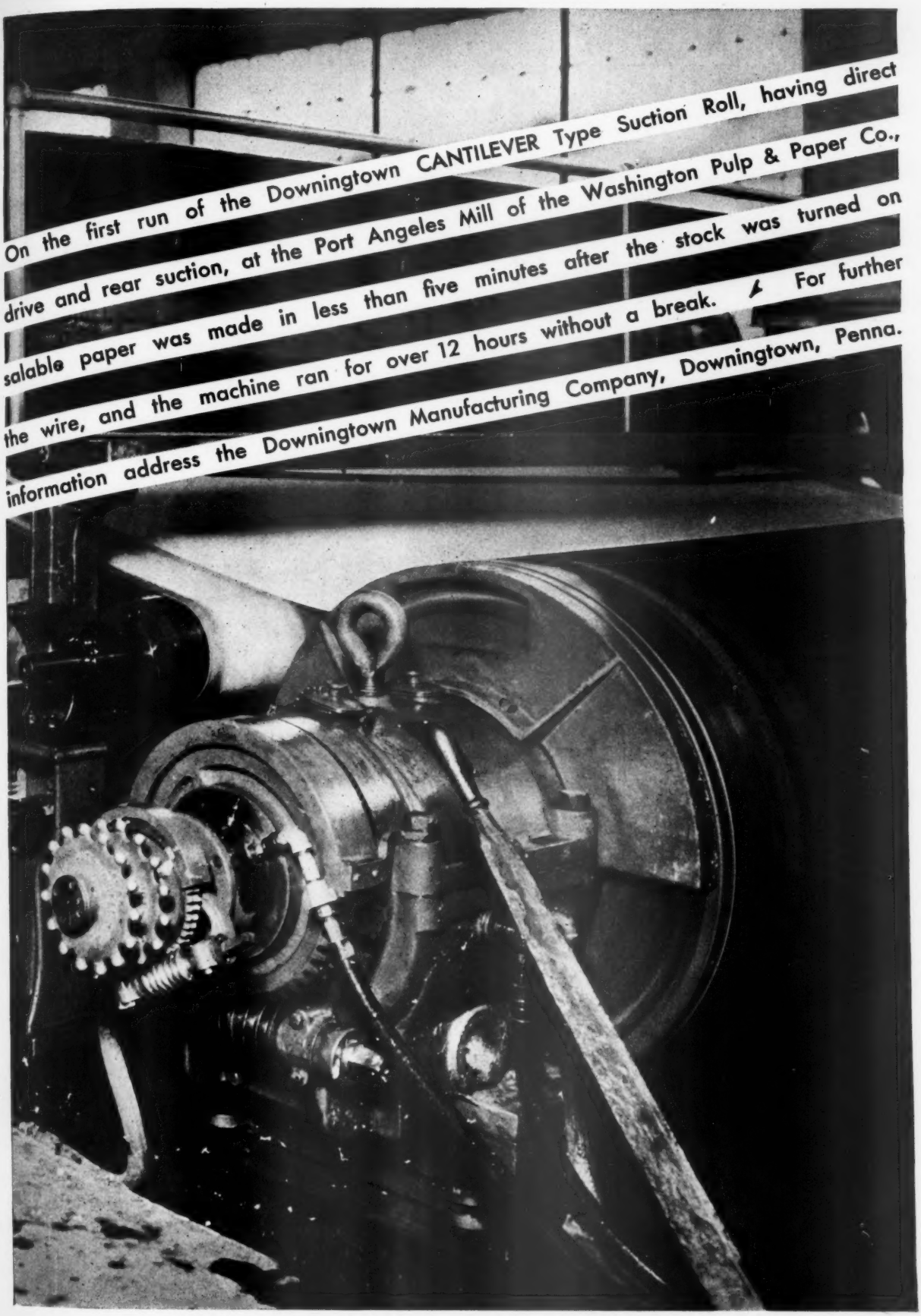
The extensive experience of the Albany Felt Company in all grades of tissues enables them to design and produce felts of the highest type—not only for long life and rapid water-removal but for extra fine finish as well.

We're interested in having you know more about Albany Tissue Felts—Pick-ups, Wet Felts, Woolen Dryer Felts—and their performance on all types of machines—Harpers, Cylinders, Fourdriniers and Yankees.

Our representative will be glad to tell you of our accomplishments and through him the world-wide experience of our entire organization is at your service.

ALBANY FELT COMPANY

ALBANY, NEW YORK


On the first run of the Downingtown CANTILEVER Type Suction Roll, having direct drive and rear suction, at the Port Angeles Mill of the Washington Pulp & Paper Co., salable paper was made in less than five minutes after the stock was turned on the wire, and the machine ran for over 12 hours without a break. For further information address the Downingtown Manufacturing Company, Downingtown, Penna.

WILLIAMS STANDARD PAPER MOISTURE TESTER

An Accurate Moisture Test of Your Paper in Ten Minutes

One Paper Company Has Bought 21 for Their Various Mills

Moisture tests can be made in your Machine Room by your Machine Tenders.

No calculations required. Accurate to .1 of 1%.

Tests all kinds of paper from tissue to board.

Hot samples weighed without removal from oven. No chance for moisture absorption during weighing.

Double-walled electric drying oven, with thermostat control.

Accurate scales with non-rusting agate bearings and beam graduated to read percent moisture directly.

Over-dried Paper Costs You More Dollars Per Ton and Dissatisfied Customers

WILLIAMS APPARATUS COMPANY

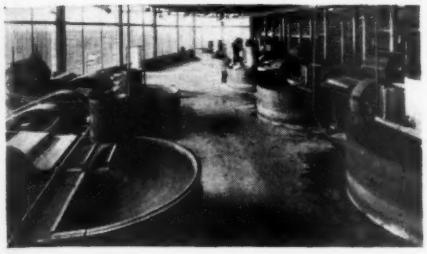
WATERTOWN, N. Y.

When writing to WILLIAMS APPARATUS CO. *please mention* PACIFIC PULP AND PAPER INDUSTRY

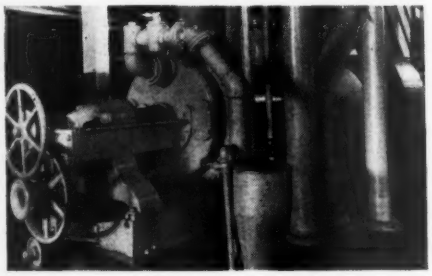
Photo by Brubaker Aerial Surveys

Aerial view of recently improved and expanded Camas, Washington, mill of the Crown-Willamette Paper Company

SUCCESS



JONES High Speed Beaters on Western Kraft Stock at Camas



JONES Majestic Jordan at Camas

The success of the Camas mill is known to everyone. It is due to all who took part in carrying out the plans of the CROWN-WILLAMETTE PAPER COMPANY for a modern, up-to-date mill.

Those men participating HAD to achieve SUCCESS. Everything they planned and performed was studied carefully from the beginning with a single aim in mind of bringing them nearer this goal.

So we are proud that E. D. JONES was selected to furnish that equipment which they felt would assure some part of their success.

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BENEFITS OF SLIME ELIMINATION THROUGH USE OF CHLORAMINES

THE DIFFICULTIES caused by slime and slime bacteria in every pulp and paper mill make their control and elimination highly important. Prevention of their entrance into and growth throughout the system is being done most effectively today through the use of chloramines.

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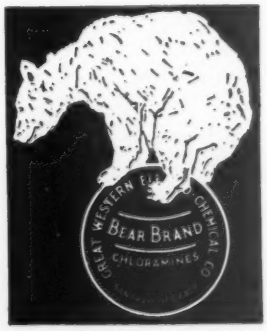
To use the most economical and effective method for elimination of slime is as important for efficiency as slime elimination itself. Chloramines are the most satisfactory means yet developed for killing slime bacteria, preventing their growth, and controlling odors; Great Western now makes them available to Pacific Coast mills. We shall be glad to answer inquiries with detailed information, and to assist in initial experiments and final installations.



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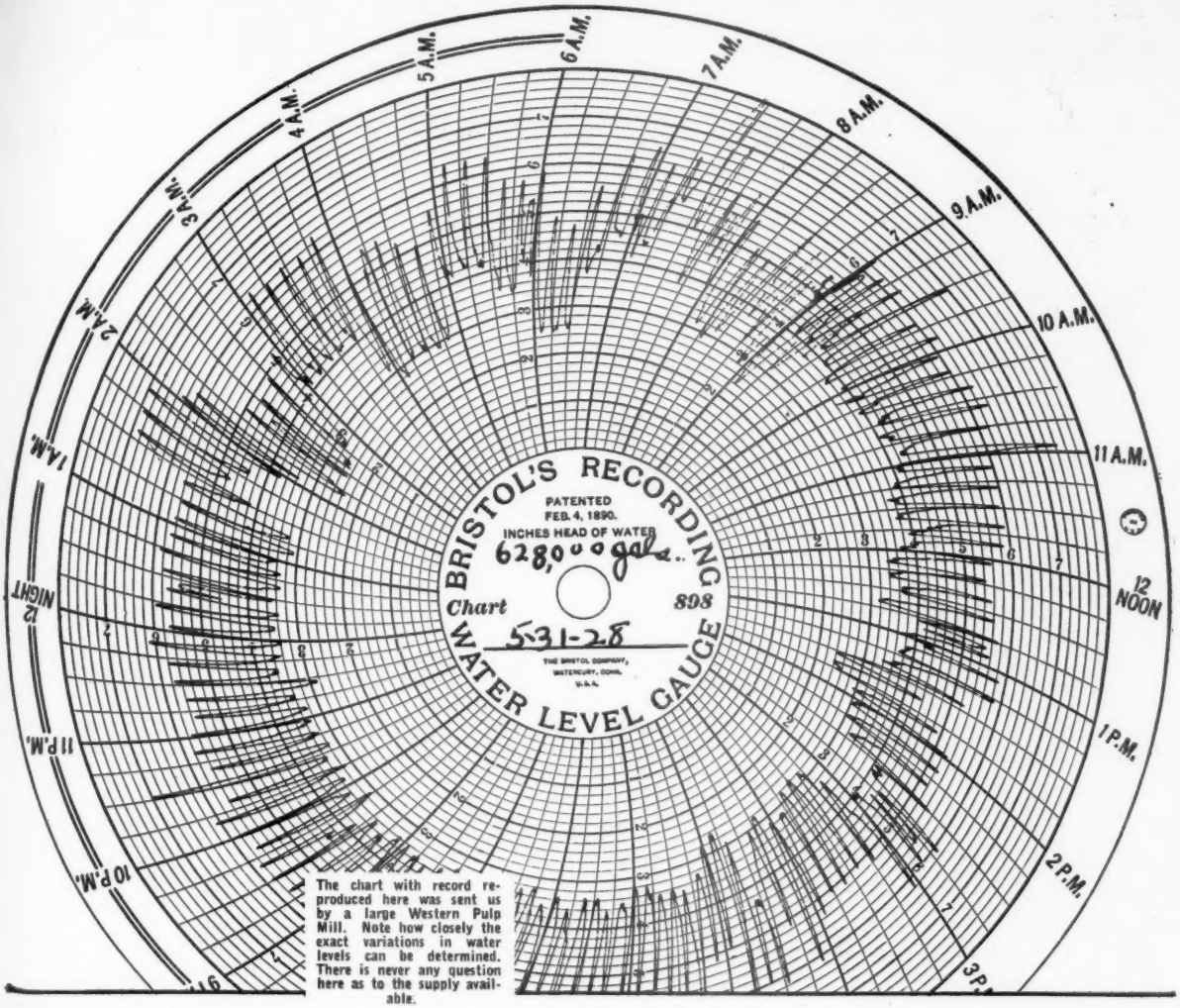


The chart with record reproduced here was sent us by a large Western Pulp Mill. Note how closely the exact variations in water levels can be determined. There is never any question here as to the supply available.

Your Water Supply Is Vital...

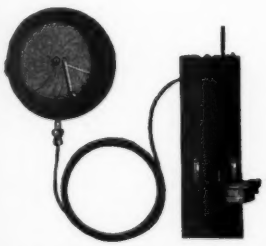
Watch It!

Each change in water level occurring over a period of 24 hours is shown in detail in the record line of Bristol's Recording Liquid Level Gauge chart reproduced above. Such a record is invaluable as a check on available water supply, and as a check on water used.

As indicated in the center of the chart, approximately 628,000 gallons were consumed during the day this record was made. This information is important. When compiled in such a form as the above chart it is easily filed for future reference, and may be the means of preventing disputes or costly litigation.

Bristol's Engineering Service is at your disposal in selecting suitable instruments for your particular needs. There is no obligation.

Catalog contains more complete information, prices, etc. Write for a copy for your files.



Bristol's Recording Liquid Level Gauge, shown complete with connecting tubing and sensitive bulb. Can also be adapted to record level of water, oil, cooking liquors, etc.

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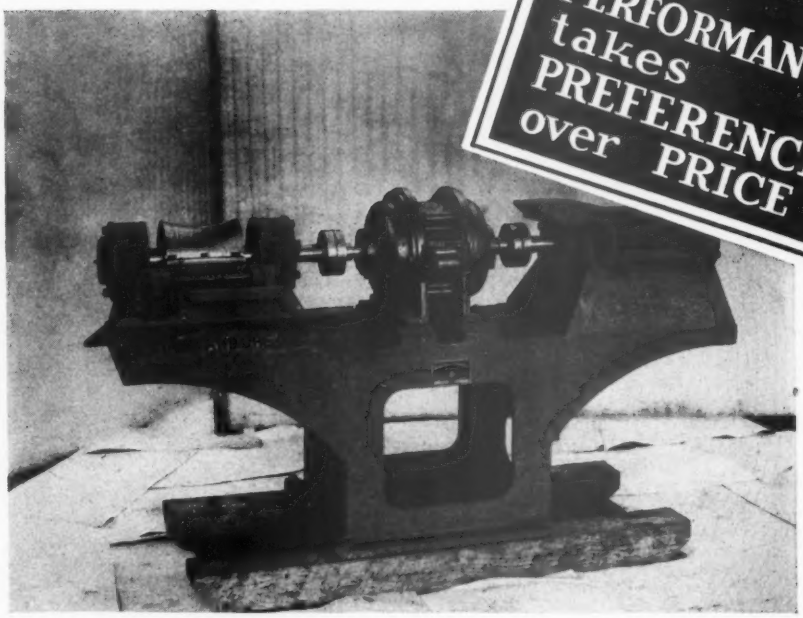

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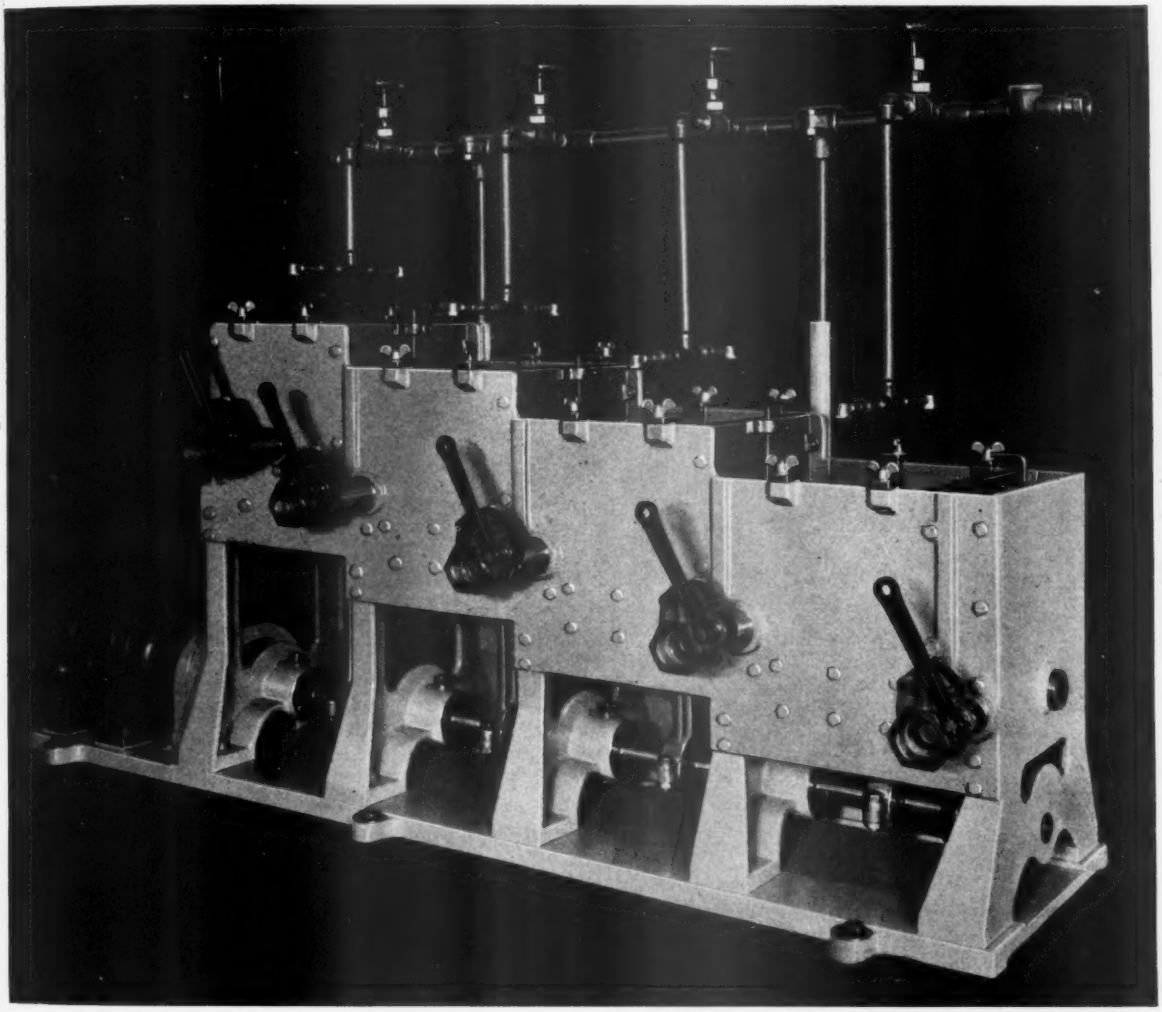
THE long established laboratory test for pulp evaluation has never given the complete story of pulp quality; especially has uniformity of test been difficult to obtain. These variables have now been eliminated and a true picture of pulp quality may be secured rapidly, accurately and unifromly by means of the Appleton Selective Laboratory Screen.



A descriptive folder will be sent to any interested person in your plant.

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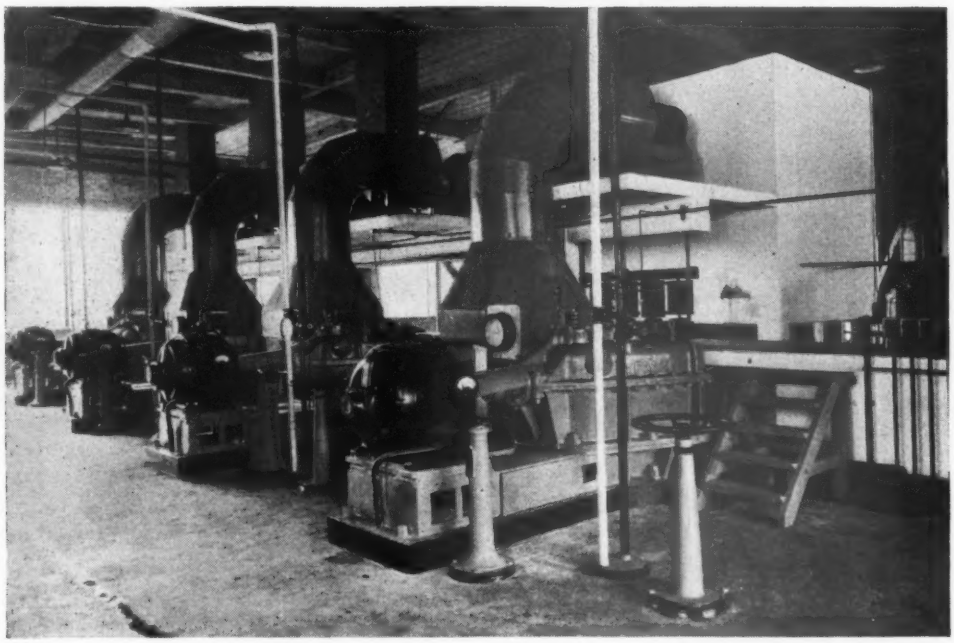
PULP BLEACHING at CAMAS



This is a Single Stage High Consistence System installed at the Camas, Washington plant of Crown Willamette Paper Company.

The photograph shows the driving heads of four 1,300 cubic foot Type VW Pulp Bleaching Units.

Whether operated in this simple process, or as a component element of our Two-Phase or Three-Phase Systems, these rugged, dependable units perform a function which is indispensable to really efficient bleaching.

PULP BLEACHING CORPORATION

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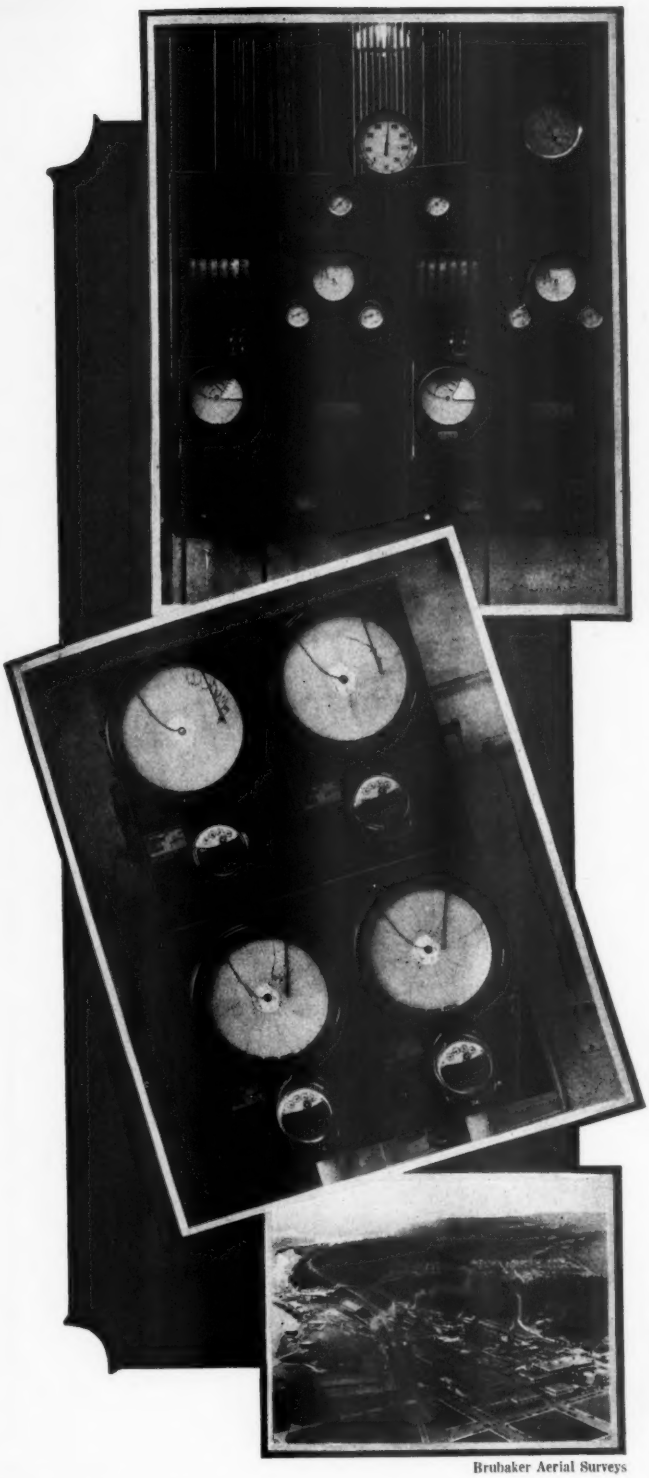

Brubaker Aerial Surveys

Bailey Meters at Camas Mill

Boiler Room Efficiency at the Crown - Willamette Paper Company, Camas, Washington, is insured by Bailey Boiler Meters and Multi-Pointer Gages.

These meters which are located on the boiler control panel, as shown in the photo to the left, guide operators in securing maximum combustion economy. They indicate record and integrate Steam Flow from each boiler, record Air Flow supplied for combustion, Flue Gas Temperature and Preheated Air Temperature. The Steam Flow — Air Flow relation continually guides operators in securing maximum economy.

Four of the sixteen Bailey Electrically Operated Fluid Meters installed at this mill are shown in the central photo on this page while an aerial view of the mill may be seen below. Steam distribution to turbines, heaters, pumps, reducing valves, paper machines and other equipment is measured by the Electrically Operated Meters.

The new power plant at this mill, which was engineered by V. D. Simons of Chicago, is an outstanding example of the application of steam-electric power to paper making and Bailey Meter Equipment is playing an important part in its successful operation.

Write for Bulletins descriptive of Bailey Meters.

BAILEY METER CO.

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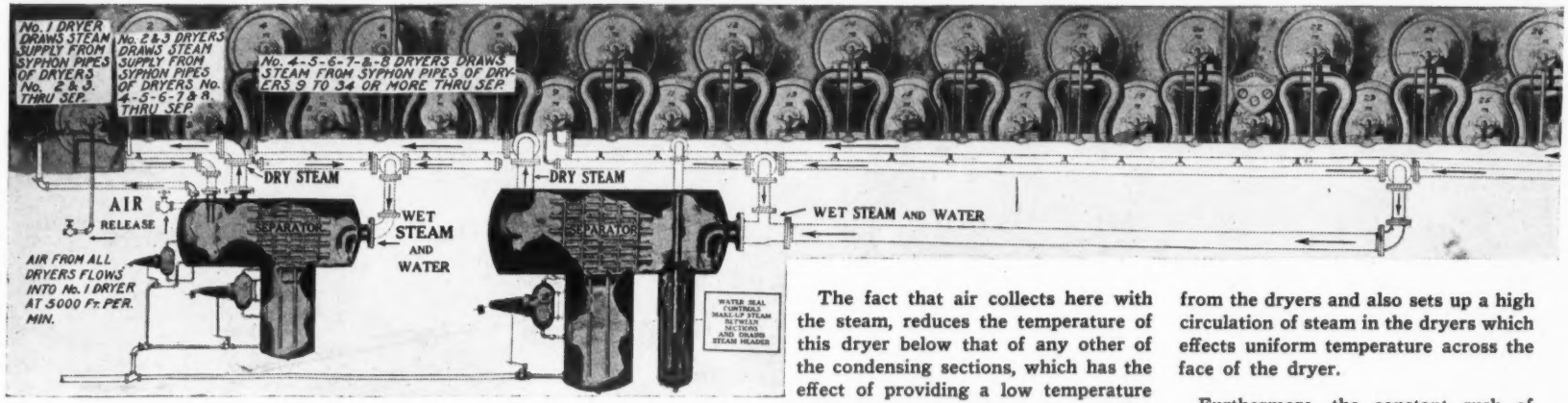
Bailey Meter Company Limited, Montreal, Quebec

FARNSWORTH DRYING SYSTEMS


No. 1 DRYER DRAWS STEAM SUPPLY FROM SYPHON PIPES OF DRYERS No. 2 & 3. THRU SEP.
No. 2 & 3 DRYERS DRAWS STEAM SUPPLY FROM SYPHON PIPES OF DRYERS No. 4-5-6-7 & 8. THRU SEP.
No. 4-5-6-7-&-8 DRYERS DRAWS STEAM FROM SYPHON PIPES OF DRYERS 9 TO 34 OR MORE THRU SEP.
DRY STEAM
DRY STEAM
AIR RELEASE
SEPARATOR
SEPARATOR
WET STEAM AND WATER
WET STEAM AND WATER
AIR FROM ALL DRYERS FLOWS INTO No. 1 DRYER AT 3000 Ft. PER. MIN.
WATER SEAL CONTROLS MAKE-UP STEAM BETWEEN SECTIONS AND DRAINS STEAM HEADER

Explanation:

THE Farnsworth System comprises a special method of piping and special separators with special water seal control legs for maintaining definite pressure drop between sections of the dryers.

It utilizes the first wet end dryer as the first section which becomes the air collecting chamber for the whole paper machine, and the action of the wet paper passing over the first wet end dryer constitutes the first surface condenser which draws its steam supply from the syphon pipes of the next two dryers as the paper continues to pass over the second section of dryers, namely two dryers. They, also, being condenser dryers, draw their steam supply from the syphon pipes of the next five dryers, and these five dryers draw their steam supply from the syphon pipes of all the other dryers on the paper machine. The three condensing sections constitute a total of eight dryers.

The Farnsworth special separator is located between each section of dryers, and all water that is drawn out of the dryers is deposited into those separators and thus only dry steam passes into the succeeding condensing section, and the air continues to pass at a high speed from section to section through all the separators and finally into No. 1 dryer which is the final air collecting chamber.

The fact that air collects here with the steam, reduces the temperature of this dryer below that of any other of the condensing sections, which has the effect of providing a low temperature dryer at the wet end where the paper enters the paper machine, and helps to improve the quality of the paper dried. The air from No. 1 dryer is released through No. 1 syphon pipe and the condensate from the dryers deposited into the separators is released from the collecting chamber of the separator through water level regulators.

The rapidity of the steam passing out of the syphon pipes has the effect of drawing all water out of the dryers even that which usually lies below the end of the syphon pipe. The high velocity of steam out of each syphon pipe insures positive removal of all air from the dryers and also sets up a high circulation of steam in the dryers which effects uniform temperature across the face of the dryer.

Furthermore, the constant rush of steam through the dryers to keep the condenser dryer supplied with steam means uniform temperature and drying conditions throughout the whole paper machine, more uniform control by the temperature regulators and more uniform moisture content in the sheet.

There are no working parts or valves except those on the water level regulators draining the separators, and the system is so simple and fundamentally correct that 700 machines have been equipped involving the largest and most representative mills in this country, Canada and Europe.

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CONSHOHOCKEN, PENN.

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Pacific Coast Division
Pulp and Paper Section
NATIONAL SAFETY COUNCIL
ROBERT H. SCANLON
Regional Director
Powell River Co., Ltd.
Powell River, B. C.

The Second Annual
Pacific Coast SAFETY Conference

For he who will lay down the tools on his workbench, or the pen on his desk, and journey to other lands where he shall partake of the counsel of wise men, and in turn give unto them his views shall return again with more wisdom and the urge and ability to do the task better.—Zyxwvuts '31.

WHETHER or not the quotation is scripture is of no import. The fact is that when the sun rose over the hills behind the humming paper mill town of Powell River on Friday, February 27, a flock of delegates were glad they had taken the night boat up the British Columbia Coast from Vancouver to attend the second annual meeting of the National SAFETY Council, Pulp and Paper Division, Western Region. And when the boatswain trilled his whistle late that same evening to mark the departure of the boat and the delegates, these same delegates were unanimous in their opinion that it had been a profitable and interesting day.

The Powell River Company had the whole affair in hand as hosts of the day. Beginning with the distribution of identification badges and programs by J. A. Lundie as the delegates boarded the boat bound for Powell River the company was host, at breakfast, on tour of the mill, on the inspection trip to the new Lois River hydro-electric project, and at the complimentary banquet which marked the finale of the day devoted to SAFETY.

There was much encouragement this year for the further expansion of cooperative effort in SAFETY work among the pulp and paper mills of the Pacific Coast. New faces, representing companies not in evi-

Here they are, the best roundup the photographer could get of the delegates attending the second annual SAFETY conference at Powell River, taken just before boarding the "Lois River special" to inspect the new hydro-electric development. In this group twenty Pacific Coast pulp and paper mills are represented.

dence last year, were there. Robert H. Scanlon, assistant resident manager of the Powell River Company, and regional director of the Western Region, National SAFETY Council, expressed pleasure in the increased attendance. Two-thirds of the pulp and paper plants on the Pacific Coast were represented and, in all, 24 organizations responded to Mr. Scanlon's invitation. From the standpoint of the number of workers represented the meeting greatly overshadowed the conclave of 1930.

After breakfast an organized tour of the mill enabled the delegates to see the recently completed additions. Chief interest centered around the new No. 7 machine,

Don Charleson of the Grays Harbor Pulp & Paper Company at the left found in Regional SAFETY Director Robert H. Scanlon (with badge) an acquaintance of long standing. Between them is Clyde Pitchford, who also hails from the Grays Harbor country, and at the right is H. Steere-Clark, B. C. Loggers' Association.

a 226-inch li'l fella, designed to roll out newsprint at 1400 feet per minute. This machine, in addition to being modern in all that paper manufacturing technique implies, has SAFETY built into it and is installed in a handsome machine room which provides healthful conditions for the employes. The new electric-powered grinder room also has added SAFETY factors, and is a well-ventilated room in contrast to the foggy atmospheres that prevailed in many grinder rooms of a few years ago.

A real treat of the mill inspection trip was the 18-mile auto trip to Lois River and the ride on the "rubber-neck" wagon improvised on a flat car up the old railroad to the new dam, where Powell River is developing 22,000 HP from the chain of Gordon Pasha lakes. The delegates were fortunate on being present on the first day water was drawn thru the tunnel and penstocks to the power house at Stillwater, down on the beach.

And if we forget to mention how that assembly of plant managers, superintendents, and assorted delegates tore into the provender dished out at the construction camp cookhouse at lunch time we have overlooked a decided hit of the whole show. It was a SAFETY meeting, true enough, but there was little regard for the subject matter in hand in the matter of adjusting capacity to appetite at that cookhouse sortee.

Back at Powell River in mid-afternoon the serious work of the meeting got under way in the community meeting place, Dwight Hall. Regional Director Scanlon, in opening the meeting, spoke briefly on the aims of the conference and the opportunity for an organized campaign of accident reduction among Pacific Coast pulp and paper plants.

"Our meeting last year—very successful for an inaugural gathering—was the first definite attempt on the part of pulp and paper mills to come together on the subject of accident prevention and reduction," said Mr. Scanlon. "We are highly gratified at the increasing interest evinced in this year's meeting. We, in the West, have only started seriously on the road to industrial SAFETY—but the main point is that we have started—and will continue to keep going. One of the solutions of a low accident ratio is to get together and discuss our mutual problems. This is the principal object of this gathering, and I sincerely hope you will all benefit by the discussions and return to your respective mills as apostles in the cause of industrial SAFETY."

Those three aces of the SAFETY movement in British Columbia gave some fresh views. H. Steere-Clarke of the B. C. Loggers Association, discussed "Some Aspects of Industrial Safety". P. (Poicy) C. Abell, B. C. SAFETY League, provided a topic of general interest for many of the younger generation of Powell River who sat in on the afternoon meeting when he discussed "Ways and Means of Traffic SAFETY", and W. D. Jenkins, of the B. C. Lumber and Shingle Manufacturers Association, gave some practical demonstrations with little red arrows on how to improve conditions in the mill.

H. B. Gilmour, representative of the Workmen's Compensation Board, spoke on "Accident Prevention with Reference to Workmen's Compensation", and G. M. Aitken brought allied views on the subject from Oregon in his address on "General Phases of SAFETY Work in the State of Oregon." He is a SAFETY engineer with the state industrial accident commission.

"Is Your Industry Fire Conscious", was the subject of the opening address by George L. Schetky, representing the B. C. Fire Underwriters Association.

The complimentary banquet in the evening was an even greater success than last year. Over a hundred delegates and invited guests, the latter including all members of local SAFETY committees, and plant superintendents, were present.

The principal speakers at the banquet were R. Bell-Irving, Powell River Company resident manager, and W. H. Winn and H. B. Gilmour of the Workmen's Compensation Board of British Columbia.

In proposing the toast to the National SAFETY Council, Mr. Bell-Irving made a strong appeal for a close affiliation of western mills with that body. Reviewing briefly the council's successful history, since its inception in 1912, with 14 member mills, Mr. Bell-Irving went on to say that the National SAFETY Council today embodies over 5000 industrial plants on the continent, embracing the lives of over 12,000,000 workmen. The chief object of the association, he said,

Here we have, from left to right, Paul Rozell, Inland Empire Paper Company; G. L. Schetky, B. C. Insurance Underwriters' Association; W. L. Ketchen, plant manager of the B. C. Pulp & Paper Company's Port Alice mill; and Ray Onkels, New Westminster Paper Co., Ltd.

is the conservation of human life. Its great utility to industry lies in the free exchange of experiences with difficulties between mills. The council maintains a numerous staff, whose advice and assistance is open to all.

"Mechanical protection is not the answer to a perfect SAFETY record," continued Mr. Bell-Irving. "In our own plant at Powell River, we have endeavored to pro-

vide every possible mechanical protection for our employes. We believe that in this respect, Powell River has an excellent record. Yet we cannot claim to lead in accident prevention on this continent, although we have one of the finest mechanically guarded plants.

"In addressing this gathering last year, I frankly stressed the generally lower accident ratio prevalent in eastern mills. And this, I felt, was due in no small measure to the greater activity of the National SAFETY Council in that region. We are improving our SAFETY record in the west, but we have not yet caught up with the east in this respect. And this only emphasizes what the speakers at the afternoon session have told you—that SAFETY education must be universal.

"Mills who have not joined the National SAFETY Council are holding up the procession and retarding the diffusion of SAFETY education in western plants. Last year we had 14 mills represented here; tonight there were approximately 25 delegates present. This is encouraging and shows that the pulp and paper industry, who are pioneering the SAFETY field in the west, are displaying an increasing interest in the cause of accident prevention in their industry."

Pittock Leadbetter (left) of the Columbia River Paper Company and J. C. Munro of the B. C. Electric Company pose in front of construction camp mess house.

The evening was taken up with brief after dinner addresses on different phases of SAFETY. Several speakers stressed the value of inter-mill competition to quicken the interest in the work. Major Steere-Clark brought forward this idea at the dinner table and was strongly supported in point by W. L. Ketchen, plant manager of the Port Alice mill of the B. C. Pulp & Paper Co., Ltd., and also by Paul Rozell, Inland Empire Paper Company, Millwood, Washington.

Mr. Scanlon, in his concluding remarks, thanked all the delegates for their attendance at the meeting and for the fine spirit of cooperation in which they had met his invitation to gather at Powell River.

"The Pacific Coast pulp and paper mills have shown," declared Mr. Scanlon, "by their attendance this year, that they are behind the movement to promote an organized SAFETY campaign in their plants. During the past year several new members have affiliated with the National SAFETY Council, and we hope the enthusiasm displayed at this meeting will be the means of bringing every pulp and paper mill on the Pacific Coast into the fold. We all want to reduce our accidents, and from the remarks of the speakers here tonight, the best way to do that is by an organized campaign of education. And the National SAFETY Council, with their large and experienced staff, is the best medium I know through which to work in the cause of SAFETY.

"We, as members of the pulp and paper industry, take a just pride in the fact that our industry is leading the SAFETY movement on the Pacific Coast. We are the pioneers of SAFETY in the west. Until the Powell River meeting last year, there had not, in the industrial history of the Pacific Coast, been a single conference called for the sole purpose of discussing the vital problem of SAFETY in industry. We have started the ball rolling. Let us keep it rolling."

Somebody must have sprung a good story to make this bunch laugh. Beginning at the left is A. E. Killen, Powell River machine room superintendent; Erik Ekholm, superintendent, Anacortes division, and C. B. Everitt, superintendent, Bellingham division, Puget Sound Pulp & Timber Company; and A. Zimmerman, Pacific Straw Paper & Board Company.

Delegates present at the conference were: P. C. Abell, B. C. Safety League; G. M. Aitken, State Industrial Accident Commission, Compensation Law, Oregon; E. R. Brown, Crown Willamette Paper Company; D. R. Charleson, representing Grays Harbor Pulp and Paper Co., Rainier Pulp & Paper Co., and Olympic Forest Products Co.; Erik Ekholm, superintendent, Bellingham division Puget Sound Pulp & Timber Co.; C. B. Everitt, superintendent, Anacortes division Puget Sound Pulp & Timber Co.; H. B. Gilmour, B. C. Workmen's Compensation Board; W. D. Jenkins, B. C. Lumber and Shingle Manufacturers' Association; W. L. Ketchen, B. C. Pulp & Paper Co.; Pittock Leadbetter, representing Oregon Pulp & Paper Co., and Columbia River Paper Mills; H. M. Lewis, Pacific Mills, Ltd.; J. C. Munro, Assistant Sales Engineer, B. C. Electric Co., Ltd.; Ray Unkels, Westminster Paper Co., Ltd.; Clyde Pitchford, manager Aberdeen Lumber & Shingle Co.; Paul Rozell, Inland Empire Paper Co.; G. L. Schetky, B. C. Insurance Underwriters' Association; H. Steere-Clark, B. C. Loggers' Association, and Arthur Zimmerman, Pacific Straw Paper & Board Co.

STATEMENT OF ACCIDENT EXPERIENCE, JANUARY, 1931

(Mills in State of Washington)

COMPANY—	Hours Worked	Total Accidents	Frequency Rate	Days Lost	Severity Rate	Standing
Inland Empire Paper Co., Millwood	64,738	0	0	0	0	1
Grays Harbor Pulp & Paper Co., Hoquiam	52,206	0	0	0	0	2
Pacific Straw Paper & Board Co., Longview	18,096	0	0	0	0	3
Everett Pulp & Paper Co., Everett	62,616	0	0	17	.272	4
Washington Pulp & Paper Corp., Port Angeles	73,583	1	13.5	3	.041	5
Crown Willamette Paper Co., Camas	271,652	9	33.13	531	1.955	6
National Paper Products Co., Port Townsend	72,337	3	41.5	8	.111	7
Fibreboard Products Inc., Sumner	17,672	1	56.6	14	.792	8
St. Regis Kraft Co., Tacoma	17,185	1	58.2	11	.640	9
Longview Fibre Co., Longview	91,539	7	76.4	94	1.027	10
Puget Sound Pulp & Timber Co., Bellingham	22,928	2	87.2	16	.698	11
Shaffer Box Co., Tacoma	11,129	1	89.9	6	.539	12
Fibreboard Products Inc., Port Angeles	32,936	4	121.4	54	1.640	13
Rainier Pulp & Paper Co., Shelton	23,743	3	126.4	36	1.516	14
Puget Sound Pulp & Timber Co., Everett	30,208	4	132.4	58	1.920	15
Puget Sound Pulp & Timber Co., Anacortes	3,384	1	295.5	77	22.754	16

The following mills not reporting: Columbia River Paper Mills and Pacific Coast Paper Mills; Cascade Paper Co.—Not in operation; Tumwater Paper Mills—Not in operation.

Seen and Heard In the SAFETY Spotlight

Don Charleson, who manages the pulp department of the Grays Harbor Pulp & Paper Company at Hoquiam, Washington, had a couple of proxies in his pocket at Powell River. He was also the official delegate of two other Washington mills, the Rainier Pulp & Paper Company, Shelton, and the Olympic Forest Products Company, Port Angeles. Mr. Charleson and Jock Lundie of Powell River discovered they were in neighboring battalions of the Canadian forces in the big tilt back in 1918 and—well, you know how these soldiers get to talking old times. Charleson found many others among the Powell River crew that he knew of old, Bell-Irving, Zumwalt, and a host of others.

* * *

Pacific Mills, Ltd., up at Ocean Falls, B. C., had a new representative down this year in the person of H. M. Lewis, who is assistant to general superintendent Frank Sullivan. Mr. Lewis remarked that it wasn't raining so much in Powell River as it has been this year up at the Falls.

* * *

The one delegate who perhaps represented more employes than any other present was E. R. Brown, who directs SAFETY affairs for the Crown Willamette Paper Company. If you sum up the employes in the Crown's mills at Camas, West Linn and Lebanon you get quite a total, the first named alone being about equal to or bigger than the biggest of the Pacific Coast institutions.

* * *

When C. B. Everitt took his barrel-like chest over by the piano at the request of Toastmaster Scanlon to roll out the deep bass of "Asleep in the Deep" he provided the undisputed entertainment feature of the banquet. When he got down to booming out those last few measures he was already down as far as somebody thought it possible for a voice to go. What happened was that someone started a brief wave of premature applause. But Mr. Everitt "hadn't been nowhere" yet, seemingly, but was just getting a start for the real way-down-low notes of the grand finale. And he made it, he sure did, and the applause just about took the roof off. When not appearing at banquets Mr. Everitt sings at his work of superintending the production of pulp at the Anacortes division of the Puget Sound Pulp & Timber Company.

* * *

Paul Rozell of the Inland Empire Paper Company got wound up for another little speech at the banquet, but he talks interestingly, has some good points to get off his chest, and has a sincerity in SAFETY work that commends any message he has to give.

* * *

Pittock Leadbetter was a new figure at this year's meeting. He represented the Columbia River Paper Mills at Vancouver, Washington, the Oregon Pulp & Paper Company at Salem, Oregon, and the California-Oregon Paper Mills at Los Angeles, California.

Backus Mill Liquidates

Liquidation of the Minnesota & Ontario Paper Company, one of the largest units in the Backus-Brooks group, was not entirely unexpected among Pacific Coast newprint men. The action of the company was voluntary, the motive being to protect the interests of shareholders and creditors. Assets exceed liabilities, but difficulty was anticipated in meeting the obligations March 1, so the petition in bankruptcy was filed.

The opinion is prevalent among many Canadian newsprint manufacturers that a similar course will be taken by several other companies in the near future, and that this will be a means of gradually bringing about stability in the industry. Retirement of several mills from the producing list will relieve the condition of overproduction which in recent months has plunged the newsprint business into unprecedented depression.

It now appears that a new contract price for newsprint will prevail in the near future in the east, but Pacific Coast prices are not likely to be affected. Officials of Powell River Company, which last year set a base price of $58 a ton delivered Pacific Coast ports, stated that they would stand pat on that figure.

Reports have it that the eastern manufacturers will no be able to maintain their price. Since the beginning of 1921 there have been several price changes, and all but one of them downward. A contract price of $55.50 f.o.b. Canadian mill was established early in 1929. An attempt was made to increase that to $60 a ton, but this failed. A year ago a new schedule was adopted calling for the maintenance of price until the end of the year, a $2 increase in 1931 with graduated increases for the following years; but this had to be withdrawn.

There does not appear to be any early improvement in market conditions in sight, and tonnage is expected to be lighter than in 1930.

NEW OFFICERS—1931
American Paper & Pulp Association

Elected at annual convention, New York, February 16-19

President—S. L. Willson, American Writing Paper Company, Inc.

Vice-President—George H. Mead, The Mead Corporation.

Vice-President—W. L. Carter, Nashua Gummed & Coated Paper Co.

Executive Committee—
George W. Houk, Hawley Pulp & Paper Company
D. C. Everest, Marathon Paper Mills Company
Henry D. Schmidt, Schmidt & Ault Paper Company
A. R. Graustein, International Paper Company
Norman W. Wilson, Hammermill Paper Company
David Luke, Jr., West Virginia Pulp & Paper Company.

Mr. Houk, who is executive vice-president of the Hawley company, operating a 200-ton news and sulphite wrapping mill at Oregon City, Oregon, is the only Pacific Coast representative.

Pulp Moves Out From Coos Bay

The steamer San Marcos last month lifted a shipment of 501 tons of unbleached sulphite pulp for Atlantic Coast markets. The pulp was from the 50-ton mill of the Sitka Spruce Pulp & Paper Company, located at Empire, on the Oregon Coast. The mill uses Sitka spruce principally in making pulp.

Two hundred tons of apple wraps and fifteen tons of orange wraps were shipped to New Zealand recently by the Westminster Paper Company, which has developed a good market in the Australasian countries.

New Paper Bag Plant for Seattle

The Bates Valve Bag Company has leased a building to be constructed at 625 West Spokane Street, Seattle, in which it expects to have in production by May 1 a heavy-duty paper bag factory, for cement and kindred products. The new plant will have a daily capacity of 150,000 paper bags. The building will be a one-story brick and concrete structure containing 22,000 square feet. It will be equipped with machinery at an approximate cost of $80,000.

The purpose of the plant is to supply multi-wall paper bags for cement, lime, plaster and other materials for the Washington, Oregon, Idaho, Montana, Wyoming, Utah and Colorado territory. Kraft papers from Pacific Coast mills will be used.

The Bates Valve Bag Company is a subsidiary of the St. Regis Paper Company, one of the far-flung F. L. Carlisle interests which also control another Pacific Coast subsidiary, the 160-ton kraft pulp mill at Tacoma, Washington, the St. Regis Kraft Company.

Ray S. Brown is Northwest manager of the company. His offices are in the Vance building, Seattle.

The construction of the Seattle bag factory comes as the final move in a Westward expansion that has been contemplated by the Bates company for about three years.

Rainier in New Financing

Stockholders of the Rainier Pulp & Paper Company, Shelton, Washington, met on March 3 to authorize issuance of $2,500,000 of 6% convertible first mortgage bonds and also to amend the articles of incorporation and provide additional Class A and Class B common stock for the exercise of conversion rights, if and when the bonds are issued. Directors propose that half of the bonds be issuable, that is, $1,250,000, and of this amount, $750,000 to be held to be issued on a basis of present property values and $500,000 to be subject to subscription by stockholders. The conversion feature contemplates issuance of units of one share of Class A and 1.23 shares of Class B stock, valued at $33.33 per unit for conversion into bonds.

Increases in capital would be 15,000 Class A and 18,450 Class B shares, making the ultimate total outstanding, after conversion, 115,000 Class A and 141,450 Class B shares. The new bonds would be styled Series A 1946 bonds. The authorized $750,000 of bonds are to be subject to future disposition of the directors but based on present assets and earnings. When the second half of the $2,500,000 bonds are used, it is provided that their issuance shall be conditioned on adequate earnings for charges and amortization.

New Roofing Mill at Tacoma

There is little to be learned about a new roofing paper mill in Tacoma, Washington. A building is now being constructed just south of the eastern approach of the new Pacific Highway bridge over the Puyallup river on the tidewater industrial area.

The company is known as the Riverside Paper Company, but its principals remain obscured, and movements are secretive. The project is unofficially reported to be headed by a woman, Anna P. McLean.

The buildings proposed include a main factory 30x280 feet and a warehouse 30x100 feet. The mill will have a spur track from the Milwaukee railroad.

Meanwhile it is unofficially reported that a 56-inch cylinder machine has been purchased and will be moved from the idle Union mill at Monongahela, Pennsylvania, to the new Tacoma factory.

New Shipping Container Association Formed

To foster the use and acceptance of fibreboard shipping cases in export trade, developing the idea on an international scale, the Export Fibreboard Case Association has been organized on the Pacific Coast by leading manufacturers in the fibreboard shipping case business.

H. L. Stilwell, packaging engineer, heads the new organization as managing director, and will devote his entire time to the association. He has severed all other connections.

H. L. STILWELL
has been appointed
Managing Director
of the newly
organized
EXPORT FIBREBOARD
CASE ASSOCIATION

Mr. Stilwell has had a sales career extending over some 20 years. He has in turn been a salesman, advertising executive, merchandising and sales executive and packaging engineer. He has been particularly influential in developing the use of fibreboard cases in export trade.

Chief among the duties on the new association will be to set a "standard of merit" for all export fibreboard cases manufactured by members. Use of this trademark is licensed to any member for his export cases which meet the association's standards.

The association's plan to encourage and develop the use of fibreboard shipping cases in export trade includes a personal solicitation, demonstrations, educational activities, advertising, correspondence and any other means of disseminating information pertaining to the subject. The plan of "attack" will be carried out to steamship, railway and motor transport lines, coasting boat and barge operators, stevedoring companies, warehousemen and other shipping and freight handling interests; manufacturers of goods for export, brokers, agencies; foreign buyers, brokers and other factors concerned with the purchase of goods from the countries in which the members of the association are located.

The association plans to maintain offices and representatives at ports and cities thruout the world strategically located with reference to international trade. It plans a systematic policing of shipments of goods packed in fibreboard shipping cases, bearing the association's trade mark, at principal ports thruout the world. The association will endeavor to maintain high quality fibreboard shipping cases bearing the association's trade mark by the adoption and enforcement of specifications.

Thru experience gained in shipping these commodities over a period of nearly two years, specifications have already been determined for fibreboard cases to be used in export shipments of some items.

Head offices of the organization will be maintained in San Francisco. Other offices are soon to be announced in New York and abroad, Mr. Stilwell informs.

Where are we now? and what's ahead?

The author of this thought-provoking article enjoys unusually wide contact with the paper industry. He deals here with the more fundamental ills and may say some things which are not altogether relished. Their truth, however, can not well be challenged. Permission to publish this frank viewpoint was granted only upon assurance that such publication would be anonymous.

AS I see it, the pulp and paper industry is in no worse condition than many others and is in fact in better shape than most. This does not, of course, apply to a few specific branches of the industry, but considers it in its entirety. Paper is used so universally and is relatively so cheap that the demand for it does not fluctuate in the same degree as certain other staples and seasonal articles.

The present condition in the industry is, I think, due almost entirely to lack of foresight and a stubborn refusal to recognize changing conditions on the part of those at the helm. The great expansion in capacity that we have seen over the last ten years has kept in advance of the growth of the market so that idle capacity has increased rather than decreased relative to production from year to year. It does not mean anything to enter into a discussion of theoretical economics, but it seems to me that the only reason for the above is that manufacturers have seen markets expand for certain goods by means of so-called "modern merchandising methods" and have determined to get in on the easy picking without planning their attack adequately. In other words, they have failed utterly to ask themselves, "Where and how can I sell what I make?"

Nonelastic Dollars

As to changing conditions, the man in the street and the woman in the home are both demanding at least 99 cents worth of return for every dollar they spend. Further, they have, I think, about reached a point where they will not submit to having things they do not need shoved down their throats by high-pressure (and sometimes, by implication, brutally untruthful) advertising. One dollar is exactly ten dimes or one hundred cents and it is not for long going to be possible to convince the wage earner that he should go into additional debt for things that are very perishable through obsolescence and do not do more than permit him to keep up with the Joneses when he is totally fed up with the debts our modern way of living has already imposed upon him.

The above expresses roughly, I think, the attitude of the consumer of goods at large and the manufacturer of those goods will have to take it into account if not voluntarily, involuntarily. This applies to the manufacture of pulp, paper and paper products as well as shoes, shingles or sheet iron. The paper mill owner or stockholder who has heretofore insisted that dividends are the only item in which he is interested will be forced to pay a lot more attention to the unexpressed wants of those from whom he gets his dividends—the purchaser of his goods.

Another matter which is just now being understood but which the paper fraternity some day will be forced to understand better is that there is more profit in selling one standard line of, say, a bond paper for a given purpose than there is in selling fifty bond papers of the same quality and to serve the same purpose and clientele, but bearing fifty different water-marks and made by fifty different mills. The wholesaler plays a very prominent part in this section of the picture. There are too many competitive paper lines now, writing, building, toilet tissues, and others that really are equal in quality and have no special talking points as compared to any other similar paper in the same line. This means more cooperation within the industry in order to combat the evils resulting from this condition and an output controlled and apportioned by the industry, itself, for its own good; this to replace the present highly wasteful and inefficient methods of producing and selling.

Less Profit?

Markets have always been a somewhat unknown quantity to most producers. They start out with a sort of hunch or a belief that they can dispose of fabulous quantities of mass-production goods at a given price without ever stopping to build a feasible sales plan before starting production and then adapting the producing plant to the logical and proper economic markets for the goods to be manufactured and sold.

Manufacturers of all kinds of expendible merchandise not capital goods will also very soon be forced to accept as a regular diet a much lower percentage of profit on their output and like it. This may not be permanent, but if it is not it will be because the producers have, themselves, corrected the conditions militating against a greater net profit. I venture the guess that the super merger will one day be found to have failed in its major purpose and that these, like other high-cost producing elements, will pass out of the picture. This is going to be especially true of the vertical merger.

World Condition

Briefly, paper is in the same position as many other industries in which the consumer believes too large a proportion of the price he pays goes for items which do not add to the material value of the goods he receives for his money. This is true not only here in the United States but all over the world. The situation does not appear hopeful in some respects, but on the other hand neither is it entirely hopeless. But whatever improvement is made must positively come from within the industry, itself, through open and whole-hearted cooperation; it will not come about as a corollary of present economic relationships.

Crown Willamette Paper Company

improves

THE CAMAS MILL

There is presented on the next sixteen pages the story of an extensive program, now completed, in which the aid of modern paper making science was enlisted to build higher qualities into the products and increase the variety of grades manufactured in one of the world's largest and most interesting specialty paper mills.

At right—a corner of the new bathroom tissue converting plant.

Logs of the type shown on the haul-up at the left are cut with a few slashes by the bandsaw and quickly converted by edgers (shown at right) and slashers to cants of convenient size for further handling in barking and chipping.

ROMANCE stalks thru any story of the Camas mill. There is romance historical, tracing in the span of a single lifetime a growth symbolical, from tiny acorn to mighty oak, of a foundling industrial enterprise expanding into one of the world's largest and most complete mills of its class. There is the romance of science and mechanical ingenuity, of man's conquest over machines and methods, discarding old ways and old equipment as newer and better means are discovered. There is the romance of paper itself, of expanding uses and practical demonstration of utility in fields hitherto the private domain of other commodities.

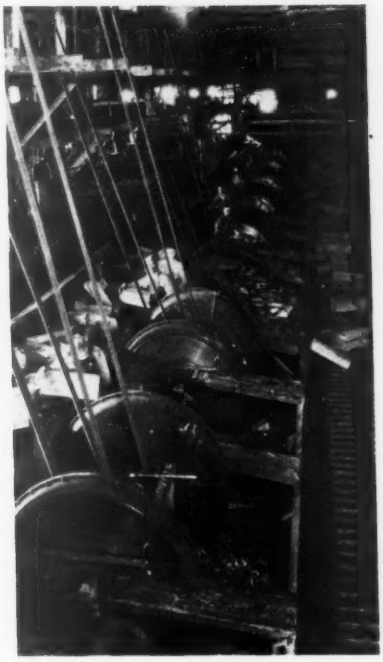
This is to be the story of the essentials entering into a major program of reconstruction, modernization, and expansion now fully completed by the Crown Willamette Paper Company at its Camas, Washington, mill. But to tell that story without some of the threads of romance interwoven is to leave much unsaid, to leave the seasoning out of the meat.

There were in those early days of the Pacific Coast, before the tired ox teams had passed completely into the limbo of the past as the coefficient of transportation, some few venturesome spirits who pioneered the publication of events. Not the least of their troubles was in finding paper in sufficient quantity and quality upon which the news of the Oregon Territory might be recorded. Between press and paper lay a continent 3,000 miles wide and not yet fully subdued by civilization. By sail around the Horn was a tedious and not too dependable channel of trade between supply and demand. From these exigencies came at least some of the inspiration that in 1885 led the pioneer publisher of Portland's "Oregonian" to establish a mill and provide his own source of paper supply. That mill was on the north bank of the Columbia, a score of miles from Portland, at a place now known as Camas.

From that modest seed, a near-primitive mill with one paper machine which laboriously made about five tons of news print each 24 hours on a machine 84 inches wide, running approximately 100 feet per minute, the Camas mill has grown in slightly less than a half century to an institution boasting 11 paper machines capable of producing in all nearly 400 tons of paper daily and converting most of those tons into finished products at the site. It is reasonable to suppose that the founders had no conception of the ultimate magnitude of the development at Camas, that theirs was only a thought of providing themselves with some news print at the time.

As the years rolled by, manufacturing facilities at Camas were increased step by step and the variety of the mill's products was expanded far beyond the original news print requirements it had been designed to meet. A kraft pulp and paper mill was constructed. A warehouse became a paper bag factory. Tissues, fruit wraps, and kindred items were added. Gradually news print became less and less the mainstay of the mill.

A merger of Crown Willamette Paper Company interests with those of the Zellerbach Corporation in 1928 to form the strong Crown Zellerbach Corporation opened new



Beyond the slashers the wood is cleaned if necessary by the row of barkers (right). All cleaned wood is carried by water flume to the chipping mill. At the left is a Link-Belt tripper for distributing chips in the storage bins.

vistas of greater latitude for reapportioning tonnage among the different mills of the group and the concentration of activities in the interest of efficiency and economy. The Camas mill at this time already had strong leanings toward the specialty field, and it held possibilities for more intense effort in this direction.

Thus it came about in 1929 that an extensive plan was announced for revamping this institution with the intent that it should cease entirely to be a news print producer and go 100% into the manufacture of special use papers of the so-called "mechanical" classification, that is, papers not intended primarily for printing. Expanding upon this announcement the company explained that production of the customary fruit and groundwood-filled tissue, sulphite and kraft wrapping and converted bag tonnage would be increased. Further, the Camas mill would enter the field of bleached specialties and personal utility papers, converted and packed at the mill for distribution to the consumer. With the adoption of this program the "product cycle" was complete. Changing markets, changing trends, had, in 45 years, entirely changed the character of the mill's output from news to specialties.

Naturally the magnitude and character of the development involved a great deal of study and attention to detail. Shortly, however, the construction crews put in an appearance. V. D. Simons, consulting engineer of Chicago, had been vested with the duties and responsibilities of engineer and construction manager. His immediate representative and resident engineer was Howard A. Simons.

The Camas mill, at the time of beginning the 1929-1930 development, consisted of a wood preparing plant, sulphite pulp mill, kraft pulp mill, nine paper machines, paper bag factory, groundwood mill and steam plant. The major items in the program now completed included a new band-saw mill, chipping and chip-handling facilities, an additional sulphite digester, a complete new bleachery, addition of three new paper machines, rebuilding of four of the existing paper machines, a water filtration plant, new steam-electric plant, and a converting plant for production of toweling, bathroom tissues, napkins and like products.

Such was the program in its essentials. But to perceive fully the dimensions of the development several factors should be kept in mind. First, the mill was to move into a generally higher level of specialties with an emphasis to be placed upon cleanliness and brightness of goods in addition to meeting most exacting customer specifications. This promotion to the higher grades of paper meant rebuilding the mill with those elements of cleanliness and brightness kept foremost in mind. Greater attention must be paid to chip preparation, more facilities for pulp refining must be available, these among other things must be done in addition to making over the paper machines to handle the new grades. Quality had to be built in from the ground up.

Second, the science of paper making does not stand still. It moves. In fact, it moves with seven-league boots. Consequently, since major

Photo Brubaker Aerial Surveys, Portland, Ore.

THE CROWN WILLAMETTE PAPER COMPANY'S MILL AT CAMAS, WASHINGTON

In Explanation of the Aerial Photograph of the Camas Mill

¶ That the Camas mill of the Crown-Willamette Paper Company is an extensive enterprise can be appreciated easily in a study of the aerial photograph on the opposite page.

¶ The sawmill and cut-up plant is seen in the upper left hand corner of the photograph situated adjacent to the log pond. Here the logs are opened, barked and delivered as clean wood to the long flume which crosses the railroad tracks and extends to the chipping plant, which is the building seen at the right of the railroad at the further end of the major group of plant buildings.

¶ The other conveyor partly obscuring the sawmill and visible just below the wood flume, serves the hogged fuel storage pile. From here the fuel is conveyed on ground-level belts to the boiler house.

¶ Partially obstructing the view of the chipping plant are two cylindrical steel chip storage tanks used to supply the needs of the kraft pulp mill which is housed in the buildings adjacent.

¶ Extending to the right from the chipping plant can be seen the long enclosed conveyor which carries chips over the boiler house—which is readily identified by the two black stacks—to the sulphite pulp mill housed in the tall buildings to the right of the steam plant. The higher portion of the sulphite pulp mill is new construction, sufficiently large to house two 58-foot high digesters.

¶ The long low structure at the extreme right of the group of buildings—where the highway curves up the hill—is the paper bag factory.

¶ Toward the foreground from the bag factory in a low building is the groundwood mill.

¶ The three-story concrete building at the extreme right corner of the mill property is the new bleaching plant, in which are installed the rifflers, flat screens, washers and other equipment used in refining and bleaching the higher grade pulp. The two circular structures adjacent to the bleachery are concrete slush stock storage tanks.

¶ The greater part of the space in the other buildings to the right of the railroad tracks is occupied by the mill's eleven paper machines, and the necessary beating and finishing capacity auxiliary thereto.

¶ About midway down the tracks, where the building angles in, is seen the new kraft beater room. This unit is new construction, as is the long building extending from it toward the foreground. Here is housed the new No. 11 machine. The near wall of No. 11 machine building is temporary, anticipating eventual extension.

¶ The railroad tracks cutting diagonally thru the mill property are those of the main line of the S. P. & S. system. The rail grade lies slightly above the ground level of the mill property, permitting unobstructed communication from one part of the mill to another thru a tunnel. The advantages of this rail line from the shipping standpoint are of course a major asset.

¶ The low, flat-roofed building to the left of the tracks houses the new converting plant where much of the mill's paper tonnage is worked up into finished bathroom tissues, paper towels and kindred items.

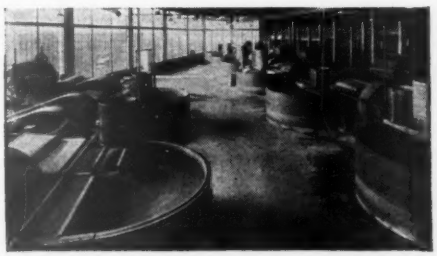
changes were necessary in the mill by reason of elevating the class of product, advantage was taken of the opportunity to incorporate many of those improvements in design which have characterized paper machines and auxiliary equipment in recent years. In other words, while about it, the company modernized by installing items now accepted as the measure of efficient practice, such as the liberal use of anti-friction bearings, improved fourdriniers, more efficient machine drives, condensate removal and moisture control systems.

Third, the mill had to be kept in production during the reconstruction period and gradually be introduced to the new grades as work was completed. This factor added greatly to the problems of both engineering and operating staffs.

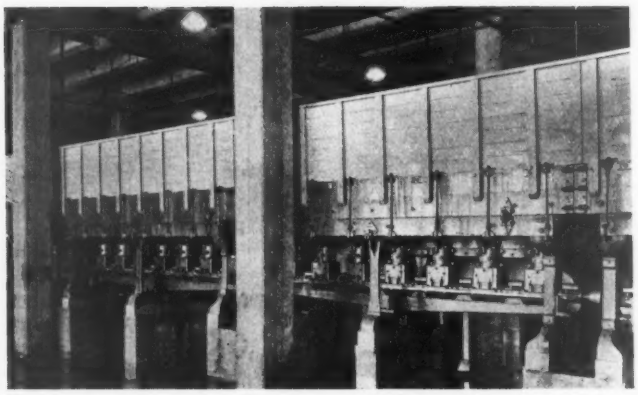
Here, then, was the problem together with important extenuating circumstances. For convenience the program as carried out in detail will be traced thru the mill according to the normal flow of materials.

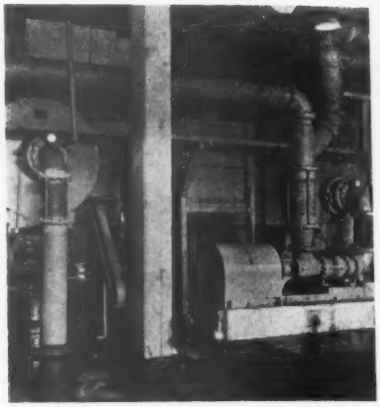
The Wood Mill

In any industry it is natural to expect in a region where raw material is relatively cheap and abundant that



Eight new beaters have been installed to provide greater capacity and flexibility.





These views of the flat screens (left) and the washers (right) reveal the modern type of equipment used for refining the pulp stock and also afford a close-up of the durable construction and design of the new buildings.

emphasis would be put upon that phase of operating technique where the fundamental advantage could be capitalized to greatest degree. Essentially, this is the case with the pulp mills of the Pacific Coast. From this general statement it is possible to proceed to the specific and in a measure explain the evolution in wood room practice during the past decade. Low wood costs depend, of course, upon the economical transformation of the tree on the stump into good pulp chips in the digester bin.

With the building of a large number of new mills and the remodeling of others in the Pacific Northwest in the past few years abundant opportunity has existed to experiment with new ideas in the wood room. From this large scale commercial experimentation operating technique in Pacific Coast wood rooms has gone thru a period of evolution.

In rebuilding the wood room of the Camas mill the Crown Willamette Paper Company was fully aware of this evolution. In consequence it so redesigned its operations in this department not only to take advantage of economies developed in recent changes in practice, but also to secure that greater degree of refinement in the chips necessary in changing the mill over to products of higher grade, particularly the bleached pulp items.

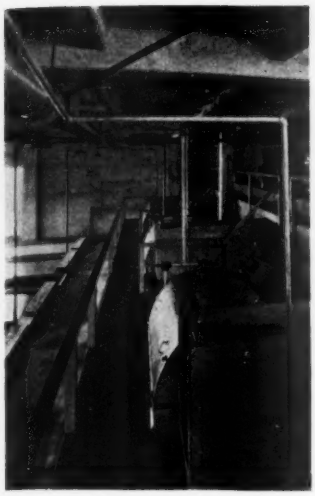
While retaining in part the old wood mill which was equipped with drag and circular swing saws and steam splitters, the new wood mill has been augmented by a modern breakdown type of sawmill wherein Sitka Spruce and Western Hemlock logs are sawed into cants. In this practice the mill still relies to a major extent upon logs as its source of pulpwood, altho the concurrent development of a cut-up plant at Cathlamet farther down the Columbia, where the company has for many years conducted logging operations, provides another source of wood which comes to the pulp mill all ready for the chippers.

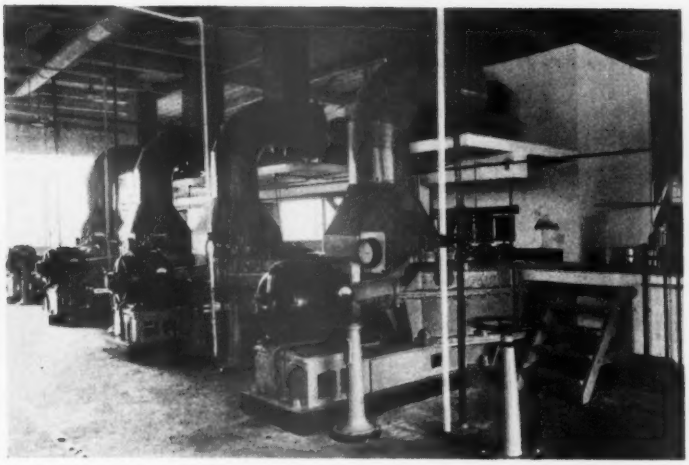
The new sawmill addition is equipped with a modern, electrically driven and controlled Sumner band saw capable of handling 32-foot logs as large as eight feet in diameter. Longer logs are bucked in the water by floating equipment. Large logs are hoisted vertically from the water, several at a time.

The principal pieces of equipment in the new breakdown sawmill include, in addition to the bandsaw, a Sumner Pacific Coast type edger equipped with chain driven power shifters, and a 16-saw overhead slasher. With this equipment a few rips thru the log are sufficient. Losses in saw kerf are minimized. The large slabs as they come from saw are further opened up under the edger, following which the slasher makes a final reduction to cants 30 inches in length and about 10 inches maximum diameter.

This modern practice of log breakdown is rapidly accomplished. It produces many clear pieces that require no further operation before the chipper. To facilitate production at Camas an automatically controlled apron beneath the slashers enables the wood to be separated and diverted to either of two parallel Link-Belt chain conveyors which straddle the line of hand barkers, one line for clean wood, the other line for wood needing to be barked. Beyond the disc barkers all cleaned cants are tumbled thru a drum barker under showers and from that point carried up to the head end of a quarter-mile-long water flume which delivers the wood to the chipping plant and the groundwood mill.

It should be added before leaving the wood room that the entire unit, as it now stands augmented and improved, has been fitted with automatic controls and so designed in





This glimpse of the knotters and head end of the gravity rifflers (left) and of the bleaching vat equipment (right) affords an insight into some of the things that have been done at Camas to build quality into the papers.

routing as to produce pulpwood with minimum manpower and maximum utilization of wood. All saw kerf, bark, edgings and other refuse is collected and reduced to hogged fuel thru two electrically driven hogs. The showers and flume give the wood a thoro washing and remove dirt, soot, sawdust and other foreign matter detrimental to first quality pulp. The ground area over which the water flume passes is utilized as required for cleaned pulpwood storage by the simple expedient of throwing the wood out.

Chipping Plant

The present chipping plant is an entirely new layout, altho some of the former equipment has been utilized in the rearrangement. The building houses both the chipping and chip screening operations. Wood from the flume is dumped on a horizontal conveyor flight, from whence it is diverted selectively with respect to the grade of chips desired to the spouts of six chippers—84" and 88" in size—arranged in three pairs, each with its individual electric motor drive.

Each pair of chippers discharges to a horizontal rubber belt which delivers to a vertical bucket elevator which in turn supplies the chip screens. There are three sets of double surface, Hum-mer vibrating type screens, arranged in tandem, a set to each pair of chippers. Beneath the upper tandems on two of the screen sets a third, single surface screen with smaller mesh has been installed. From the two sets — A and B — of three screens each the oversize chips go to a crusher, those retained on the second wire cloth go to sulphite. The fines passed by the upper meshes are rescreened on the third surface, the small chips being salvaged for kraft and the sawdust for fuel. The third screen unit — C — is used for kraft chips only.

The chipping plant has been designed to meet the full chemical pulp wood requirements in a single shift.

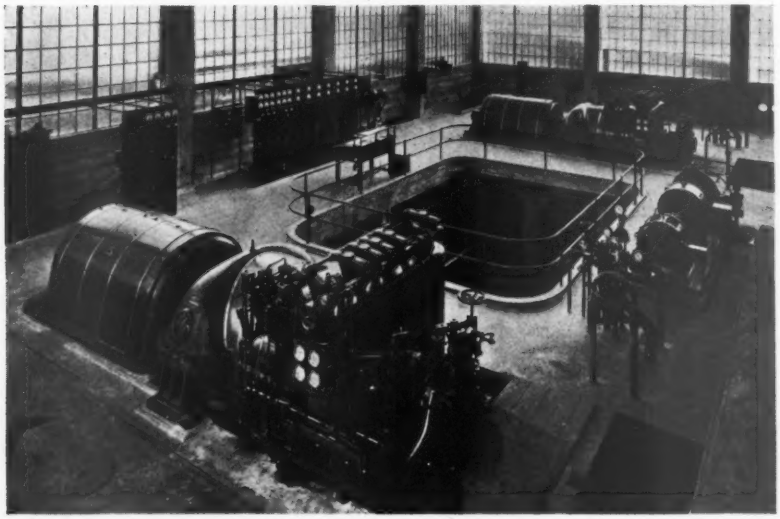
Sulphite Mill

With respect to the Camas mill in its entirety the sulphite pulp department occupies a central position. Entirely surrounding it are the machine rooms, steam plant, bag factory, groundwood mill and other plant units. From the chipping plant the sulphite chips are carried on a long, entirely enclosed rubber belt conveyor over the roof of the boiler house to chip storage above the digesters. Distribution is effected here as desired by employing a Link-Belt tripper. Additional chip storage for sulphite has been provided near the chipping plant. Kraft chip storage is taken care of by two cylindrical steel storage tanks installed in the mill yard.

To meet the demand for sulphite pulps necessary to the production of a greatly enlarged line of specialty papers, and to afford a greater tonnage of bleached pulp, the Crown Willamette Paper Company constructed a concrete and steel extension to its sulphite mill. In this addition a Willamette digester 19 feet in diameter by 58 feet high has been installed, sufficiently large to produce 26 tons of pulp per cook. Space has been provided to install another digester of this size later, if desired.

The Camas mill now has a total of ten digesters. The new unit and two of the older digesters were piped up so that a special easy bleaching stock can be produced separately from the sulphite stock that is to be used unbleached.

Other additions and improvements to the sulphite pulp department include a new blowpit of modern design, constructed of concrete



The two turbo-generators installed in the new steam-electric plant operate on 400 pounds pressure and are designed to be the forerunner of further installations in this department.

and lined with special tile. Pertinent features in this blowpit comparable to other recent installations in Western mills include a vaulted ceiling and drainer bottom lined with perforated wood. The vomit stacks, constructed of concrete to the roof level and of wood above that point, are fitted with showers of improved design to lessen fumes and conserve the cooking acids. Additional acid recovery tanks, acid cooling facilities and another sulphur burner were among the items added in line with a general modernization of the department to assure a high test acid and a minimum loss of chemicals.

Bleachery

Altho the Camas mill was previously equipped to produce some bleached stock it was neither able to handle much tonnage nor to perform the operation with maximum efficiency. Its bleached pulp requirements were somewhat incidental. Under the present scheme of production, however, bleached pulp of high quality and in quantity is very necessary. Thus, as part of the program, a new bleachery was inevitable. Appearing as a colorful background to the otherwise drab but sturdy three-story concrete building now known as the Camas bleachery is a story of the expanding uses of paper, of widening fields of utility, of greater markets, of ever-increasing refinement of product. "Better quality, better quality," is the never ending demand of the consumer. The cold, gray concrete of the new bleach plant and the modern equipment it contains is in answer to that demand.

Of first necessity to an effective bleaching operation extensive gravity riffling and screening facilities have been provided for the raw stock to be bleached. These, with bleaching and washing equipment, have all been installed in the new bleachery. The stock enters the building at the third floor level, is passed thru knotters, flows over rifflers of large surface area, down to the four rows of Smith & Valley flat screens on the first floor, thence thru deckers and thickeners to the four bleach vats. Bleaching operations are controlled from the third floor.

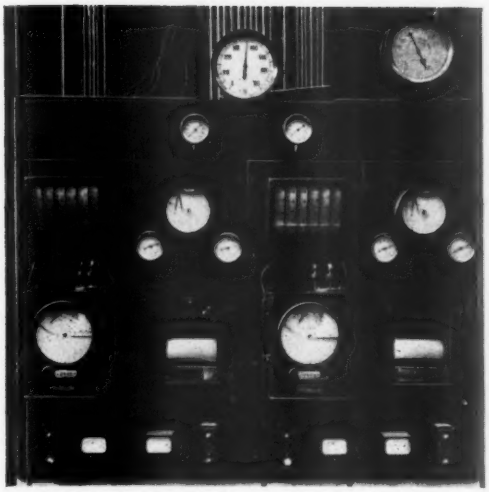
The bleach plant, installed by the Pulp Bleaching Corporation, is a single stage high consistence system, similar in most respects to many other installations made thruout the country in the past ten years. Daily capacity of bleached pulp is from 100 to 150 tons. Provision has been made for the future operation of additional equipment to accomplish double stage bleaching if desired. The present single stage system serves very well at Camas where none of the pulp has to be dried and shipped, but is all used in slush form directly in the paper mill.

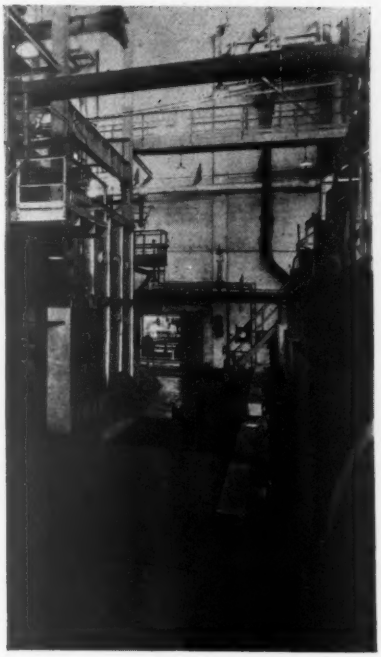
Other equipment in this department includes Oliver-United filter washers for handling the stock after bleaching, and a J. O. Ross Engineer Corporation heating and ventilating system for the building.

Design of the bleachery permits considerable flexibility of operation. For example, it is possible to draw off pulp stock at the couch deckers or thickeners to machine chests where bleached stock is not required. Adjacent to the building are two circular, concrete tanks for storage of slush pulp. This is part of the extensive provision made in the remodeling program to avoid the expensive necessity of lapping pulp on wet machines in times when demand and supply are not in unison.

Water Supply

An adequate clean water supply is now recognized as essential in the paper manufacturing scheme as a whole, particularly where the output involves quality papers made from bleached sulphites. Judging by trends in recent installations the modern mill is thoroly cognizant of this factor now, altho general recognition has not been accorded for any length of time.





At the left is a pretty shot looking down the firing alley in the new boiler plant. The central control panel is shown (left) in enlarged view to indicate in part the utilization of modern control and recording devices.

The extensive water system installed at Camas as part of the program in stepping into the higher grades of paper includes a forebay, a settling basin, a filter plant, and a riverside pumping station. The settling basin and filter plant are located about 1000 feet from the mill up the hillside, at an elevation of about 150 feet.

Much of the mill water supply is obtained from Lacamas lake, situated in the hills above the town. The lake water is brought by gravity to the forebay first, where all mill water supply is impounded. In the summer months when the lake flow is unequal to the mill demand, water is pumped to the forebay by the riverside pumping station. This station is fitted with four inducing motor-driven pumps having a total daily capacity of 58 million gallons.

The forebay feeds a concrete settling basin 400 feet long by 125 feet wide and 21 feet deep. The basin is oval shaped and is divided across the short dimension into two distinct chambers, each of which is fitted with a baffle to direct the flow and facilitate settling. Astride the divisional wall in the basin is the mixing house in which water is treated with alum and lime and is chlorinated to inhibit slime growth in the mill processes. One chamber of the basin is used for clear settled water for the general mill supply, the other chamber feeds exclusively to the filters. The present filter plant has 20 units, 8 feet in diameter by 20 feet long, affording a total daily capacity of 12 million gallons. The present plant represents an increase of 16 filter units. If it should be desired later to use filtered water exclusively in the mill, the present settling basin will serve with the addition of more filter units. Water requirements of the Camas mill are now about 45 million gallons daily.

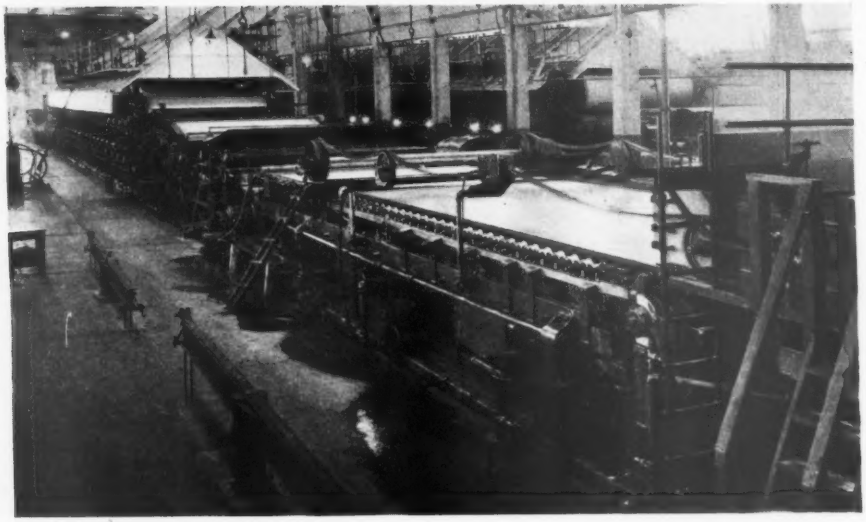
The water system, as a whole, is so piped that raw water from the forebay, settled and treated water from the basin, or filtered water, can be drawn off. Filtered water is now used exclusively in the production of all bleached papers and it is also used as make-up water on all paper machines. A number of economies of operation have been inherited with the more extensive use of filtered water, such as longer felt and wire life, reduction of slime and consequent lessening of broke troubles, and the general cleaning up of all water passages in the mill.

Power Plant

In extending the steam-electric plant at Camas to meet requirements of the enlarged and modernized mill the fundamental plan was to supplement existing facilities with a new steam and power generating unit that would serve as a nucleus for a compact, centralized, high-pressure plant later on if desired.

Prior to the initiation of the mill improvement program, steam needs of the mill were supplied by a battery of boilers totaling 3750 h.p. and three waste heat boilers in the kraft pulp mill totaling 786 h. p., each steam unit operating at 150 pounds pressure. Steam-electric power in the mill was rudimentary, consisting only of a 750 k.w. condensing turbo-generator. The bulk of the electric load was carried by public utility lines. In the improvement program existing equipment was retained, including some steam engine drives in the paper mill.

The modern steam-electric plant added in the course of the general mill development is housed in a new



Here is No. 5 machine, one of the four which was rebuilt to incorporate many recent improvements in paper machine design and better to fit it for production of greater efficiency.

concrete and steel building, centrally located. The major equipment includes: on the steam side, two Puget Sound Machinery Depot boilers, operating at 400 pounds pressure and 700 degrees superheat, and developing 1132 h.p. each; on the electric side, two General Electric double automatic extraction turbo-generators, developing 2300 k.w. each.

Hogged fuel is fed from automatically controlled conveyors to water-cooled, inclined stationary grates in the front of each furnace. The 22-foot height of the furnaces —from furnace floor to mud drums —is unusual and results in exceptionally good combustion. To supplement the hogged fuel each furnace has an oil burner of extra large size installed in the rear wall. Combustion chamber walls are air cooled.

Combustion and steam generation is facilitated by the employment of many modern and efficient devices. Flue gases upon leaving the boilers pass thru plate type air preheaters which practice permits delivery of air for combustion at about 400 degrees F. Both the forced and induced draft fans are driven by 400-pound pressure steam turbines exhausting into the 30-pound system.

Cinder cones are interbuilt with the base of the stack, the residue from them being returned to the furnaces. An excellent testimony of the combustion efficiency is found in the veritable absence of smoke emitted from the stacks, the only discharge being a light haze.

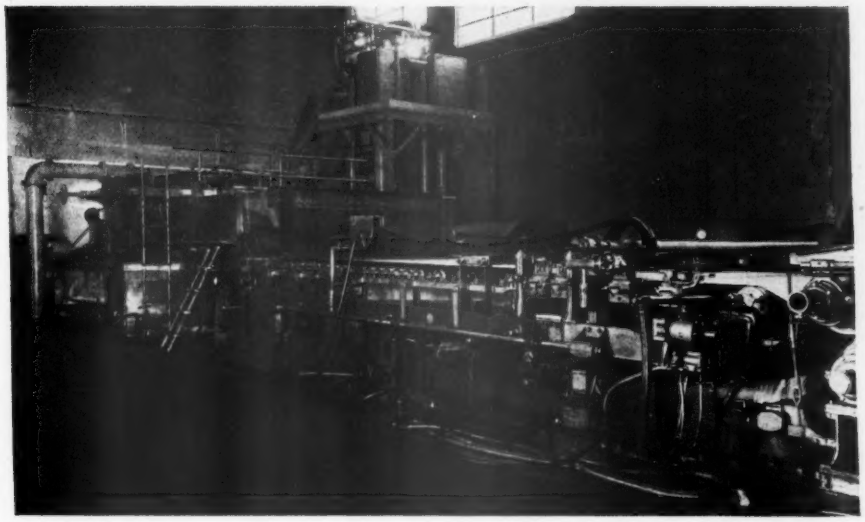
Equipment auxiliary to the furnaces includes a water softening system, continuous blow-down, heat exchangers, and various pumps, most of which are installed in a separate room adjacent to the furnace room proper.

Hook-up of the steam lines has been designed to afford flexibility due to the several steam sources and the different steam pressures employed, the variability of the steam and electric loads, and with consideration for the most efficient utilization of purchased power.

The two new 2,300-volt turbo-generators previously referred to turn at 3,600 r.p.m. The turbines are 11-stage. They operate on the 400-pound line and exhaust at three different pressures, namely, 150, 60 and 30 pounds, according to the load demands of the mill. The 150-pound steam line feeds the steam engines in the paper mill and also the digesters in both sulphite and kraft mills. Engine drives exhaust at 30 pounds for drying, this supply being supplemented by the 30-pound line from the boilers. The 30-pound boiler steam is used in the drying cylinders of the electrically driven paper machines and also finds other uses, such as black liquor evaporation and general mill heating.

During normal operation the new turbo-generators pass the major portion of their full throttle flow to process via automatically operated extraction valves, a small amount passing thru the low pressure end of the cylinder to carry fluctuations in the electric load and to ventilate the vacuum stages of the turbine.

A significant feature of the new steam-electric plant is the liberal use of recording, indicating and control instruments, and the location of these devices for constant and convenient reference by the men on shift actually in charge of boilers and generators. In other words, the instruments are regarded as the five senses of the plant, providing a current picture of plant performance. The operators therefore know exactly what is going on during their shift. There is no necessity for operating "blind." Necessary changes can be compensated for promptly to insure maximum efficiency. Scien-



This close-up of the wet end of the new No. 3 machine shows in some detail the equalizers (seen above), Bird screens, head box and general arrangement of the fourdriner.

tific operation of the plant according to instruments is not only necessary in the modern plant but serves to develop a higher type of operating personnel. The department head gets a daily picture of plant performance thru the different operating graphs.

A central panel in the firing alley of the boiler room enables the operator on shift to visualize air flow, steam flow, temperature of flue gases, temperature of air entering and leaving preheaters, record of CO_2, draft fan speeds, and the various pressures. With this performance data readily and constantly accessible, the operator can guide his willing giant by manipulation of push buttons right at hand. In the generator room the instrument panels provide another pulse on conditions of steam pressure, voltages, and load distribution. Rule of thumb has been displaced by "rule of instrument" in the new power plant at Camas.

Paper Machines

The story thus far has shown what the Crown Willamette Paper Company did in the way of groundwork to build quality into the higher grades of specialties it was to make. These items were, however, only a forerunner to actual revamping of the paper machines which were to form the sheets. The work carried out in the paper mill proper was as important as any other part of the program. Three new modern machines, No. 3, No. 10 and No. 11, were added, the first of which displaced an old No. 3 machine. All new machines are Beloit. Machines numbered 1, 2, 5 and 6 were rebuilt. Machines 4, 7, 8 and 9 were unchanged.

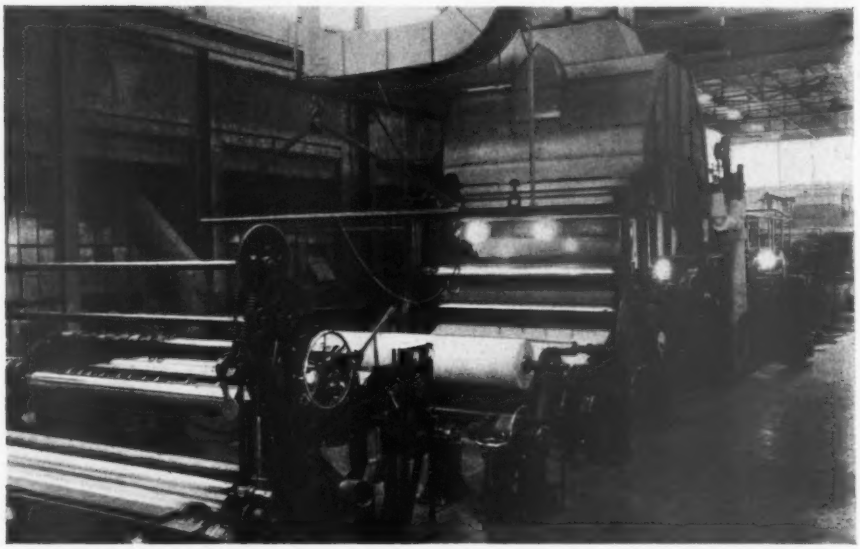
The two Harper fourdrinier machines, No. 1 (134-inch wire) and No. 2 (114-inch wire) were rebuilt to run fine 10-pound tissues at high speeds. The improvements included lengthening the wires to 65 feet each, new copper lined head boxes, high speed adjustable shakes, spring support of breast rolls, etc. New and wider dryer gears with cut teeth, new enclosed spiral bevel section drive gears running in oil and mounted in roller bearings, were built into the dry end. The sections are now engaged by automatic clutches, push button operated from the front of the machines. New taper pulleys were installed on the line shafts.

Machine No. 5, a 152-inch fourdrinier, now makes bleached sulphite specialties instead of news print. Changes here included a removable fourdrinier, similar to that on No. 3—which will be described later — with headbox, high speed slice with rectifier roll, breast roll, table rolls, wire roll and breast roll doctors, save-all tray, and motor driven shake adjustable for speeds of 450 to 700 feet per minute.

Suction boxes were retained but provided with oscillating mechanism. New couch and first press rolls were added.

At the dry end the machine now operates with a new uniform speed reel with three spools, all roller-bearing mounted, and a pair of unwinding stands with friction arrangement for winding.

Machine No. 6, a 187-inch fourdrinier, was rebuilt for higher speed to produce increased tonnage of kraft wrapping papers and bag stock. A new patented slice with a rectifier roll permits adjustment while the machine is running. Wire length was increased from 80 to 96 feet. The fourdrinier was rebuilt, but not into the adjustable and removable type. It now has, however, a motor driven shake, wire rolls, additional table rolls, and a new breast roll with spring supports. All shaking parts are mounted on flexible supports to avoid wearing surfaces. No. 6 now has suction couch and first press rolls and, mounted be-



The new No. 10 Yankee type machine, seen here from the dry end, is a modern installation for production of m.g. and similar papers. Note particularly vapor absorption and condensate removal system installed for greater efficiency.

tween these two, an aluminum roll for regulating the draw of the paper.

Six new dryers were added on No. 6. The line shaft was retained, but lengthened, and provided with new pulleys for higher speeds. The steam engine drive was undisturbed, but its load has been lightened by replacement of the ordinary journal boxes by new roller bearings on many parts of the machine.

Each variable speed section of the machine, consisting separately of the couch, first, second, and third presses, smoothing press, two sections of 17 dryers each, calendar and reel are now driven by new improved cut steel spiral bevel gears, fully enclosed and running in oil.

The new No. 3 machine is typical of the best conservative design for the desired production of fruit wrap and tissue. It displaced an old 85-inch news print machine. The wire is 65 feet long and the fourdrinier part from the breast roll inclusive of table rolls, suction boxes, guide rolls, wire rolls and save-alls but not the couch rolls are removable by motor drive as a unit on rails into the tending aisle, to facilitate changing of wires. The fourdrinier is adjustable vertically also by motor drive at the guide roll through a distance from 2 inches below to 6 inches above level.

The slice is of special design for light weight papers, including a motor-driven perforated submerged roll. Separate from the removable fourdrinier part and beneath the suction box area of the wire is a fixed sheet metal save-all tray with spout back of the return wire discharging into the wire white water pit.

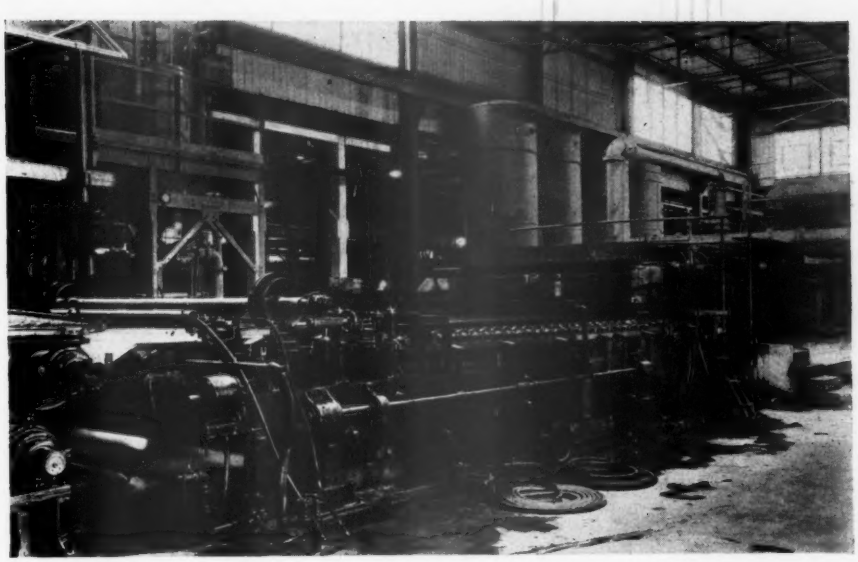
Eighteen dryers 60 x 134 inches and one 36-inch dryer overhung toward the press with a rubber covered top roll for returning the top pickup felt, a rope carrier, a four-roll calendar stack, uniform speed reel combination winder and slitter comprise the dry end of the new No. 3 machine. The first and last three bottom and the last top dryer are equipped with long shaft brass bladed doctors and the last top dryer is equipped with an internal cold water shower.

Each section of the machine is driven from the line shaft thru hardened cut steel bevel gears running in oil baths, and actuated by magnetic clutches, push-button operated from the front of the machine. The lubricating system includes an oil circulating pump and oil filter. Drvers are driven by shrouded chains from the sprockets on the section shafts.

The line shaft is driven thru a cast iron taper pulley belted to a direct current motor, current for which is applied by an alternating current motor-driven generator.

Machine No. 10 was provided to fulfill the demand for a variety of machine glazed, plate marked and felt striped specialties of medium to light weight bleached and unbleached sulphite and kraft papers. The fourdrinier wire is 132 inches wide and 65 feet long. From the breast roll to the couch, exclusive of the latter, the fourdrinier part is removable into the tending aisle as a unit to facilitate wire changes. It is adjustable vertically so that the breast roll may be raised two inches above or lowered six inches below the level of the wire guide roll. The double slice is of improved, tapered design.

The vapor absorption hood system applied to the new No. 10 Beloit Yankee machine dryer, which is 12 feet diameter and 132 inches face, consists of a Ross standard Yankee vapor absorption hood which was adapted to the particular requirements of the machine. This hood is of double construction with a hot air chamber surrounding practically the entire periphery of the dryer. Warm air is discharged thru special type nozzles, and the vapor



Here is the wet end of the No. 10 Yankee machine, affording a good study of the fourdrinier arrangement, Bird screens, Oliver save-all and other auxiliary equipment. No. 10 occupies a new room constructed in an old court.

is exhausted thru a large flue at the top of the machine. The auxiliary apparatus consists of a main supply blower, a nest of heater coils, and supply and exhaust flues and connections to the hood. An exhaust fan was also supplied for removing the spent vapors.

The effect of the above installation is to apply warm, dry air to the surface of the sheet in order to lower the vapor tension and carry away the surface moisture which has been evaporated thru the agency of the large dryer. After the moisture is released from the sheet it is still confined by the inner circle of the hood and is carried away to the top of the hood by the exhaust fan.

The new No. 11 machine has been installed to produce 25 tons of 10-pound toilet tissue paper daily. It has a fourdrinier wire 175 inches wide and 75 feet long. Except that it is provided with creping mechanism, its materials of construction are the same and the dimensions of its parts proportional to new machine No. 3, described above.

Structural alterations necessary to house the new and rebuilt machines included a new concrete building for No. 11—built with a temporary wall to facilitate installation of a No. 12 machine—the roofing over of an old court for No. 10, and new foundations, white water and stock chests, and pits on some of the rebuilt jobs. By roofing over the court area between the buildings in which machines No. 1 and 2 were located on the south, and machines No. 9 and 3 on the north, and installing necessary foundations, etc., a new No. 10 machine room was provided.

The movement into higher grades of paper necessitated the installation of considerable auxiliary equipment. A new reinforced concrete building south of the No. 11 machine provided space for eight additional E. D. Jones beaters, all of which are used for kraft papers made on machines No. 4, 6 and 10. The beaters are driven in pairs thru Texrope drives by motors located on the main floor. Beneath this floor are chests for beater stock and white water. Two beaters of the same general type were provided for each of the three new paper machines.

Each of the new machines has been provided with a jordan coupled to a 350 h.p. synchronous 2,300-volt motor.

To assure even consistency before passing to the paper machines stock is pumped to Warner equalizers. The equalizers discharge directly to the jordans below.

Each new machine has two Bird screens with copper vats, the rejects passing to flat screens. In line with general efficiency and attention to detail each machine is equipped with an Oliver save-all and a condensate removal and moisture control system.

With eleven paper machines the Camas mill as it stands today is given a measure of flexibility necessary to the production of specialties, hundreds of items of which are now included in the "stock items" of this plant. The variations range thru a miscellany of weights, finishes, colors, felt markings, and other distinguishing characteristics provided to meet a general sales policy of "the customer be pleased."

Converting Plant

When the Crown Willamette Paper Company included in its extensive Camas development the construction of a thoroly modern plant for the production of converted paper products, its program was directly in accord with the trend of the times. This is an age of specialization, of mass production, of complete vertical concentration of manufacturing activities. At Camas today the raw log is converted in a comparatively few hours into an attractively packaged product ready for the dealer's shelves.

This long shot of the new No. 11 tissue machine seen from the wet end shows the trim "in line" arrangement from broke beater to winder and the high type of modern construction and design employed in buildings and equipment.

With a converting plant situated adjacent to the paper mills it has been possible to centralize a number of remanufacturing operations, to eliminate intermediate shipping and handling — and attendant waste — of semi-manufactures from paper mill to scattered converting plants. In the several short cuts effected and in the more efficient remanufacturing possible in a modern plant the company has been able to secure many economies.

Reference to the aerial photograph of the Camas mill published in connection with this article will most readily fix in the reader's mind the location of the new converting plant with respect to the mill as a whole. It will be noted that trackage of the mainline railroad separates the converting plant from the mill, which, with spur tracks into both departments, provides excellent direct shipping facilities.

The converting plant is a well lighted and ventilated daylight factory 200 feet wide by 250 feet long. The building is only one story high with the exception of a comparatively narrow portion adjacent to the tracks, which is two stories in height, the upper level being utilized for a core making department, offices, and locker rooms.

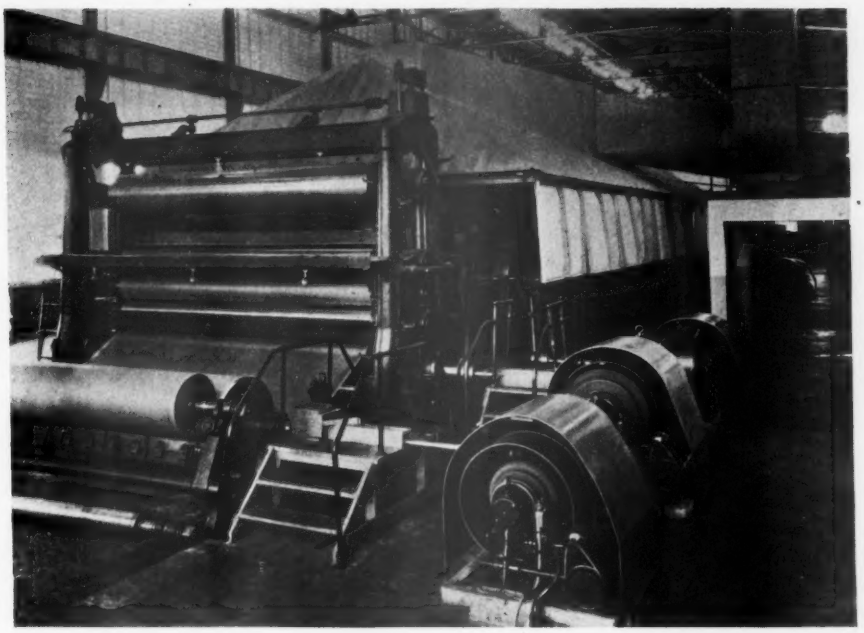
A central wall divides the plant into a manufacturing division and a warehouse. In the former the space has been allotted to two principal lines of machines, one along each wall, the first of which turns out bath room tissues and the second of which concentrates on folded paper towels. Liberal space has been left in the center of this big room for the installation of additional converting machinery as required.

In the course of the Camas development program the Crown Zellerbach Corporation launched two new products, "Zee" and "Zalo," with the support of vigorous national advertising. These two items were bathroom tissues made by a new process which fluffs up a gentle nap on the surface of the sheet and adds to the absorbency. Both are made exclusively from new pulp, and their fresh cleanliness is carried to the ultimate consumer protected by a tucked-in wrapper.

In addition to these two new items the corporation, thru another subsidiary, had established a wide consumer acceptance for its Public Service Towels, made in the interfolded form and dispensed in attractive cabinets. This well known towel has recently been improved in quality and is now offered in pure white.

It is these bathroom tissues and toweling items that are now the chief output of the new Camas converting plant. In refining the processes in all departments of the mill the purpose has been to build high quality into the final product. Here are some reasons for enlarging the bleaching facilities, of installing new paper machines, of rebuilding others.

Paper for the converting plant comes from the mill in jumbo rolls. The roll tissue and the toweling machines have been laid out to effect the greatest possible economies in transforming the jumbo rolls into wrapped packages in the shipping carton. The extensive gravity conveyor system is quite a help in this regard. A two-deck roller conveyor has been installed adjacent to each wall, and running parallel to the lines of converting machines. Empty shipping cartons move down the upper deck, from whence they are removed as needed. Each carton, as it is packed, is shoved on to the



The new No. 11 machine, seen here on the drive side from the dry end, was installed to produce high grade bathroom tissues of improved type now meeting a national market.

lower conveyor which delivers its burden to the automatic sealing machines.

The conveyor system is extended with considerable ramification in the warehouse part of the plant and has been so designed that packed goods can be diverted to storage in any part of the building or delivered directly to cars for shipment. Handling has been reduced to a minimum.

Railroad cars are loaded under cover on a spur track. The converting plant is connected to the paper mill proper by a tunnel under the main line tracks. This clear avenue of inter-communication is used extensively by the Elwell-Parker electric trucks which are used to bring the jumbo rolls to the converting machines and also in handling a variety of items, the skid system being largely employed. Another rail spur leads off into the main part of the mill to facilitate the loading of paper bags, counter rolls, and other items finished in the main mill. The tunnel has been found to be of great value in permitting the loading of mixed cars on either spur.

The mill transportation system also includes a tramway for the efficient handling of all kinds of materials, and for the transfer of finished products to the riverside warehouse for outgoing river steamer shipments.

Conclusion

Any true perspective of the extensive improvement program now completed at Camas must begin at the end and work back. The observer sees the log going into the mill, sees it reduced to chips, the chips reduced to pulp, sees the pulp spun out into a web of paper, sees the paper cut, rolled, and wrapped for shipment, sees the cars rolling away to market. The chain was not fashioned, however, in that manner.

Back of the Camas program is a recognition of changing demands on the part of consumers. Theirs is the satisfaction which, in the end, must be filled if the mill is to run. To the initiative of the paper industry as a whole can be credited an aggressiveness which has sought out new uses, sensed the needs of the user, and then provided a product to meet that need. The steadily expanding consumption of all grades of paper in the United States, and the world, is testimony enough of the manifold utilities of paper.

Nor is it adequate to complete this story of modernization and improvement at Camas without mention of the company's program of technical control of production. With markets growing more critical and making sterner demands, the paper manufacturer has fully realized that greater responsibilities have been placed upon him. The modern day is ruled by science, and science, Webster tells us, is "knowledge of principles or facts . . . classified and made available in work, life, or the search for truth."

Thus science joins hands with the modern paper maker, enabling him to produce his goods with greatest economy, to establish qualities and maintain them, to explore new avenues. Concurrently with the Camas development a broader system of central technical control of manufacture founded on modern science has been initiated and is being steadily perfected wherein the efforts of the man-in-the-mill, the chemist, the engineer, the accountant, and the manager, are being co-ordinated to the end that the organization consistently can meet the needs of the market.

One of the finishing rooms where fruit wrap with specific protective qualities is packaged for the market.

If a true value is to be placed on the Camas program, credit must first be given to a recognition by the Crown Willamette Paper Company of the public's changing demands, a recognition of the public's insistence for something new, for something better. The market was first visualized. Then it was determined what quality of product could capture that market. Lastly, the manufacturing facilities were improved and expanded to build that desired qualiy and economy of manufacture into the product. The means were only the way to

THE END

More About The Anti-Dumping Act

It appears that the "Anti-Dumping Act", which was dug out of the archives and dusted off for discussion in the February issue, has been conceived illogically from the geometrical stand. It was thought that the matter could be described as a point, but it appears that it is more than that. It is a solid object, possessed of many sides, some of which may be, and apparently are, larger than others. Nevertheless, there is more than one side to this problem of dumping commodities.

The article published in the February issue was confined to the probable dumping of pulp in United States markets in these days when pulp prices are way down—below, as many suspect, the cost of manufacturing in some foreign markets. Comes now another angle from a manufacturer who gives some potent comment on a different phase. Below is an extract from his letter, one of a number received in comment on the Anti-Dumping article:

"With reference to your February issue I was rather amused to read the article on the "Anti-Dumping Act", starting on page 23. Of course I do not want to be quoted in this connection at all, because this is a very touchy subject and perhaps a very dangerous one if not for the saving grace of a bit of humor in it. The facts are, no one even whispers or hints of an anti-dumping act with reference to newsprint, but they get perfectly wild about all other products.

"Our Canadian friends are allowed to sell at relatively high prices at home, on the one hand, while on the other they drop down into the Texas territory and dump to their heart's content. If we ship into Canada, we have to sign a lot of papers on both sides with a whole sheaf of certificates and affidavits and the price must be not only equal to the normal domestic prices but as high as any price we get for the same product at our own doorstep. If it isn't, we just can't ship that's all. But nary a whisper do we ever hear about a situation of that sort for the United States mills because there is too much straddling of the border by financial and other interests.

"No one nowadays ever heard of the Reciprocity Act of 1910, which was going to do such great things and which after passage by the United States was turned down flat by Canada and from the appearance of things nobody wants to hear of it. Wonderful thing is human nature and great nerve center the pocketbook, which sometimes causes one optic to close and another one to open. You do not have to ask why it is, nor even wonder, but I think you will agree with me that it is a dangerous topic and I rather feared for you even when you started out on the pulp question. But best wishes and here's hoping that some day the American manufacturer of newsprint may get a hearing free from these straddling influences. However, it won't be on this earth."

Oregon Engineers Talk Pulp and Paper

When the Oregon Section of the American Society of Mechanical Engineers concluded their meeting on February 20, 1931, there was unanimous approval that the program presented on "The Pulp and Paper Industry of the Pacific Northwest" was exceptionally interesting. C. W. Morden, chairman of the Pacific Section of TAPPI, and a speaker on the program, asked for a show of hands among the 150 or so present of those whose livelihood depended directly or indirectly upon the pulp and paper industry. Nearly a third of those present stood up to be counted.

Mr. Morden presented an interesting "Brief History of the Pulp and Paper Industry on the Pacific Coast". He traced the origin of the first Coast mills and sketched bits of the early life of some of those men who are now among the leaders in the Western industry.

Altho C. C. Hockley, pulp and paper mill consulting engineer, Portland, was unable to be present in person, he provided for the meeting an instructive paper on "Developments in the Pulp and Paper Industry" in which he traced the refinement of operating technique in the different departments of the industry, couching his talk in language understandable to the man of engineering turn but not necessarily familiar with the "patter" of the paper industry. The address was read by Cliff M. Rogers in Mr. Hockley's absence.

Ray Smythe, manager of the Willamette Iron and Steel Works, brought out his magic lantern to illustrate with slides his talk on "Progress in Pulp and Paper Machinery Design". Mr. Smythe's talk was particularly interesting because he illustrated the evolution in design in many pieces of equipment now adopted as standard practice in most mills. Initiative of Pacific Coast equipment manufacturers was portrayed in this address. Many of the slides showed machines developed by Coast organizations to meet the particular needs of Pacific pulp and paper mills.

Following Mr. Smythe's talk the discussion was thrown open to all and resulted in several informal explanations of new methods and processes used in Western mills. Among these was an explanation by Carl Braun, Puget Sound Pulp & Timber Company, of a new type slab barker recently developed by him and installed at the new Everett, Washington, pulp mill. R. V. Bingham, president of the Bingham Pump Company, Portland, explained a new type circulating agitating pump used in pulp stock chests in connection with a deflecting apron, an installation of which is reported giving good service at the Rainier Pulp & Paper Company's mill at Shelton, Washington.

The World Is Our Apple

Just a little evidence to show that PACIFIC PULP AND PAPER INDUSTRY has **interested** readers all over the world.

THE OJI PAPER MANUFACTURING CO., Ltd.
Tokyo, Japan

Editor
Pacific Pulp & Paper Industry
71 Columbia St.
Seattle, Wash.

Feb. 10, 1931.

Dear Sir: With keen interest we are reading your esteemed journal from month to month.

The December issue (1930) of your journal presents a big story on Alaska's paper mill projects. In the right hand column of page 28, you speak of the cutting period of "Pulptimber Allotment" and you go on to say "forestry is to be practiced on a sustained yield basis to provide a continuous supply of wood for a stated maximum mill capacity. . . . "

From this we understand that the pulp wood in Alaska is to be cut in such manner that the sources of pulp timber there are to be permanently kept growing. We are very much interested in this point, and we should like to have further information as to how the cutting of timber shall be conducted under this sustained yield system.

We shall be much obliged therefore if you would kindly enlighten us by giving detail methods to be applied for that purpose. In case this will cause too much trouble on your part, please kindly furnish us names of some reference books together with their publishers or any other printed matter that would enable us to learn the actual method of cutting trees under this system.

Trusting your favor and thank you in advance for your kind reply.

Very truly yours,

S. YAMADA.

S. Yamada
The Oji Paper Mfg. Co., Ltd.
Sanshin Building
Tokyo

The Russian Pulpwood Question Rests

Congress has gone home. For which we are thankful. Somewhere in the debris-strewn pigeon holes of the national legislative chamber lies a dead bill, call it the Oddie-Williamson bill, the Kendall bull, or what you will. It doesn't matter now. It's dead.

It was a bill designed to exclude the threat of imports from Soviet Russia, to protect American workmen and American industries from the unfair competition of goods produced by slave, convict, enforced, impressed or otherwise involuntary labor. Its death is not mourned for, as it was finally reported out by the House Ways and Means Committee, it was an abortion, affording no protection whatever against Soviet pulpwood imports.

The Treasury Department, against which in general, and Seymour Lowman, departmental assistant secretary, against whom in particular, all of the fond invectives were called out last year when the ban on Russian pulpwood was put thru the teeter-totters, had an inkling some kind of a bill was going to get out and on to the statute books during the congressional session just closed. To forestall such action the department ordered an embargo on all lumber and woodpulp from Northern Russia. They declared they hade made a "finding" that convict labor was being used up there in the Archangel district.

The embargo was ordered on February 10. Tha House Ways and Means Committee reported out its mongrel bull on February 10, a close second, but nevertheless a second.

But it doesn't matter. Congress has gone home. From one who was in attendance in the closing days of the session it is learned, "it is regrettable that the lumbermen and other parties interested in the Russian menace failed to make a better showing."

Meanwhile M. S. Makodzub, vice-president of the Amtorg Trading Corporation, speaking in New York, said in effect that the kind of "no-convict-labor" proof would be forthcoming when and if they knew what was wanted.

And the vociferous applause arising from the assembly halls of the annual convention of the American Paper & Pulp Association was in echo to the expression of that organization's president, S. L. Willson, that he was opposed to the importation of Russian pulpwood.

The net of all the Russian hubbub is: We have no new legislation. We have an embargo, the effectiveness of which rests entirely with the administrative sincerity and diligence of the Treasury Department. We have a minority of United States interests cheering on the Soviet side, either because they are doing a machinery business or have existing contracts for pulpwood. We have a majority interest, both within and without the pulp and paper industry of this nation, aroused to the seriousness of the Soviet threat. We have our Canadian neighbors slapping on an embargo without dillydally. And we have another session of Congress coming up later on. And we have not settled the question of Russian wood imports.

Russian Paper Mills Not Yet Able to Meet Demand

If it were not for the paper shortage, it is stated by a member of the Soviet government, the distribution of Soviet newspapers could be increased by 30 to 40%. A special commission appointed to investigate this situation found that in order to supply the demand for paper in 1931, the country should produce 230,000 metric tons of newsprint, 179,000 metric tons of book paper, and 185,000 metric tons of writing paper. The present plant capacity of Soviet Russia, however, permits a maximum production during the current year of only 115,000 tons of newsprint, 78,000 tons of book paper, and 92,000 tons of writing paper.

In other words, instead of supplying the country with a total of 594,000 tons of these three kinds of paper, the present mills will presumably turn out only 285,000 tons, or somewhat less than one-half of the necessary quantity.

The largest Soviet paper mill, at Balakhna, has shown the worst performance. A number of other mills have turned out only 59 to 83% of the assigned output. (Based on Economic Life, November 4; Izvestia, December 13; and for the Cause of Industralization, December 14).

Canada Puts Embargo On Russian Products

Action of the Canadian government in declaring an embargo on the importation of pulp, pulpwood and timber products from Soviet Russia will have little effect on the pulp and paper industry in British Columbia, according to mill operators.

"The government's ban has checked the danger of Soviet competition before it has really manifested itself," said one company executive. "Canada's imports of pulp wood have so far been very light and no pulp has been brought in at all."

The embargo was welcomed by representatives of the industry, however. "Canadian lumbermen and pulp and paper mills should not have to compete with a country using conscript and prison labor," said Robert L. Sargent, secretary-manager of the Canadian Lumber Association.

"The action of the government forestalls any possibility of Russian pulp and pulp wood being brought into Canada in the future," remarked John Black, secretary of J. R. Booth, Ltd., pulp manufacturers, of Ottawa.

Generally speaking, it is pointed out, the view of the Canadian government is that carrying on trade with Russia is not only encouraging an injurious, even ruinous, competition with Canadian industry, but also encouraging the spread of communism for the revolutionary destruction of the established social order and institutions.

Oregon Pollution Legislation Defeated

The objectionable part of a bill proposed in the Oregon legislature which would close Oregon streams to certain industries, including the pulp and paper, was killed following 40 days of wrangling. Much of the credit is due Senator C. K. Spaulding, who was able to muster enough votes to kill the bill in its original form. The bill was revised by the game commission and passed without the objectionable matter. It is expected that a similar bill will be offered at the 1933 legislature. Mr. Spaulding is president of the Spaulding Pulp & Paper Company, Newberg, Oregon.

The Oregon pulp and paper industry does not look with favor on the water power act, which passed, and which allows cities to build utility plants of their own and which gives them a private right to all waters of the state. Under this act cities may hold up an application for an industry using water for a period of ten years, with option of renewal. It is feared that this measure will stop industrial development in the state; however, it is expected that the law will be nullified at the next legislature.

No other legislation of outstanding interest to the pulp and paper industry was passed.

Fir-Tex Gets Big Insulation Order

The Kelvinator Corporation, manufacturers of refrigerators, have placed an order with the Fir-Tex Insulating Board Company, of St. Helens, Oregon, for 15,000,000 square feet of "Fix-Tex", according to an announcement by A. E. Millington, vice president and general manager of the Fix-Tex company. The order, Mr. Millington states, represents about one fourth of the total 1931 output of the St. Helens mill.

On the Kelvinator order, 1,000,000 feet were to be shipped in February and the additional footage was to go forward in large orders.

The St. Helens plant produces full inch-thick superinsulation and sound deadener on a continuous fiberforming machine 12 feet wide. No other insulating board, it is said, is produced in such width and thickness.

Made from Douglas fir chips, the product has attained an immediate importance to the lumber industry. Financial backing of outstanding capitalists and business leaders of the Pacific Coast is behind the Fir-Tex mill.

Floriston Now A Ghost Town

Marking the last chapter in nearly a quarter century of litigation with Nevada interests, the dismantling of Crown Willamette Paper Company's paper mill at Floriston, California, now places that community among the ghost towns of the West.

Once a thriving community, humming with the activity that marks a mill from chipping plant to finishing room, Floriston now lies in industrial ashes. The machinery worth salvaging has mostly been moved to the company's other plants. The mill employes and their families have gone. Only a handful of watchmen remain to the end. The air is silent. The company store has sold its stock at auction. The payroll has dissolved. Floriston is no more, save the empty husks of buildings which will stand for many years as silent reminders.

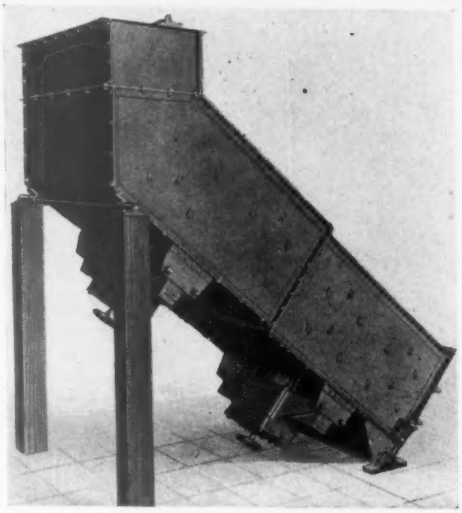
Floriston is—or, more exactly, was—in the high country near the California-Nevada boundary. The Nevada people on the Truckee River claimed that acids from the pulp mill polluted the stream. Litigation. More litigation. Efforts by the company to meet the objections of the Nevada people, to dispose of the liquor. Pressure by the Nevada people.

The victory lies with Nevada. They have dried up the mill pollution. But they had to move the mill to do it. And with the mill went the payroll.

Insist Swedish Kraft Undervalued

The question of undervaluation of kraft paper imported from Sweden is before the customs officials in the belief that the price at which this paper is exported to the United States is below the home market value. Total imports of kraft wrapping total about $750,000 per year, and nearly all is of high quality. The Import Committee has long been contending that the paper was not being properly valued for duty purposes, as the result of a technical decision by the customs courts before the Import Committee was formed. If the situation is as represented, a new test case will result.

Recent decisions by the United States Customs Court, according to the Import Committee, have resulted in higher classification or the finding of a higher dutiable value on importations of waxing tissue, heavy kraft wrapping paper, ground wood book paper, side run news, the value of the paper involved being estimated at some $25,000.



A rear view of the Hum-mer chip screen showing the vibrator which transmits 1,800 powerful impulses per minute to the screen cloth. The new chipping plant of the remodeled mill of the Crown Willamette Paper Company at Camas, Washington, is using a number of screens of this type.

Sidney Roofing Appoints New Sales Manager

P. W. Field has been appointed sales manager of the Sidney Roofing and Paper Company Limited, operating a board and roofing mill at Victoria, B. C. Mr. Field has been representing this firm in Vancouver but will soon change his residence to Victoria to assume charge of the company's sales department.

Mr. Field, who was born in England, had a wide and varied business experience before entering the service of the Sidney Roofing Company. He was manager of the Pender Street East branch of the Bank of Montreal in Vancouver. Subsequently he entered the service of the Paraffine Companies, Inc., San Francisco, and for nearly five years acted as representative of that company in Central and South America with headquarters in Buenos Aires. His experience of directing the sales of roofing materials in 16 different countries makes his service of exceptional value to the Victoria concern.

Sidney Roofing Postpones Expansion

Plans for extensive expansion of the Victoria plant of Sidney Roofing & Paper Company have been postponed, according to announcement of Robert W. Mayhew, managing director.

"We have by no means abandoned the program entirely," said Mr. Mayhew. "The general condition of business, however, has dictated a policy of caution and we are not going ahead with plant expansion until the air has cleared somewhat."

Sidney Roofing & Paper Company, which has developed a large export business as well as domestic trade in patented roofing, wall board and similar products, had planned to spend $250,000 on new equipment and buildings this spring.

Columbia Paper Mill Reports Income

Net income of the Columbia River Paper Mills for 1930, before deducting interest on funded debt and before depreciation and federal income taxes, amounted to $374,748, which is equal to seven times total interest charges on funded debt. Total current assets were $794,239 and total current liabilities were $304,220.

T-A-P-P-I

Pacific Coast Section

Chairman—C. W. MORDEN,
C. W. Morden Co., Portland, Oregon

Vice-Chairman—HARRY ANDREWS,
Powell River Co., Ltd., Powell River, B. C.

Secretary-Treasurer—MYRON W. BLACK,
Inland Empire Paper Co., Millwood, Wash.

The 1931 Spring Meeting of the Pacific Section, T. A. P. P. I. will be held on Saturday, April 18 at Everett, Washington, Hotel Monte Cristo. Timely papers and visits to two interesting mills. Golf on Sunday. Better be there.

Krimmel Urges Cooperation With Pacific TAPPI

President M. A. Krimmel paid some compliments to the young Pacific Section of TAPPI and urged greater consideration of and cooperation with the Far West unit in his address before the sixteenth annual convention of the Technical Association of the Pulp and Paper Industry held in New York February 16-19. Mr. Krimmel, a member of the technical staff of the Hammermill Paper Company, Erie, Pennsylvania, enjoys a relationship with the Pacific Coast thru the interlocking of interests of the Hammermill company and the Grays Harbor Pulp & Paper Company, at Hoquiam, Washington. He was re-elected to the TAPPI presidency.

Speaking of the Pacific Coast he said:

"I am greatly indebted to the association for an interesting and inspiring trip last Fall to the West Coast, where I had the pleasure of meeting and addressing the members of the Pacific Coast Section. The meeting was well attended and there was intense interest displayed in committee work.

"While this is still a young section, they have problems already with which they will need TAPPI support. The pulp and paper industry on the West Coast is comparatively young, and one gets some wonderful impressions from a visit to the mills. The technical men are pioneering in certain respects, certainly in connection with the chief raw material—Western Hemlock.

"Here one finds mills modern to the Nth degree in which are incorporated the ideas gained from years of experience in pulp and paper making, and it would seem that there would be no technical problems in engineering and chemistry, but that is not the case. The technical man has problems galore and he is making good progress in meeting and solving them.

"The thoughts I want to leave with you about the West Coast are that the pulp and paper industry out there is a part of our industry and that the Pacific Coast Section is a vital and necessary part of TAPPI. As such their association technical problems become to a certain extent our problems and they should receive consideration in the research programs of the government institutions.

"It behooves us to find some means to better span the distance gap to facilitate mutual rendering of service between TAPPI members on the West Coast and the association.

In the annual report of R. G. Macdonald, secretary-treasurer of TAPPI, presented at the New York meeting, the industry on the Pacific Coast shows its progressiveness by accounting for three of the total of eleven new corporate memberships added to the international TAPPI roster in 1930. These companies are the Puget Sound Pulp & Timber Company, the Longview Fibre Company, and the California Fruit Wrapping Mills.

Total TAPPI membership on December 31, 1930, was 1166, of which there were 755 active members, 302 associates and 109 juniors.

NEW OFFICERS—1931

Technical Association of the Pulp and Paper Industry
T. A. P. P. I.

Elected at annual convention, New York, February 16-19

President—M. A. Krimmel, Hammermill Paper Company, Erie, Pennsylvania.

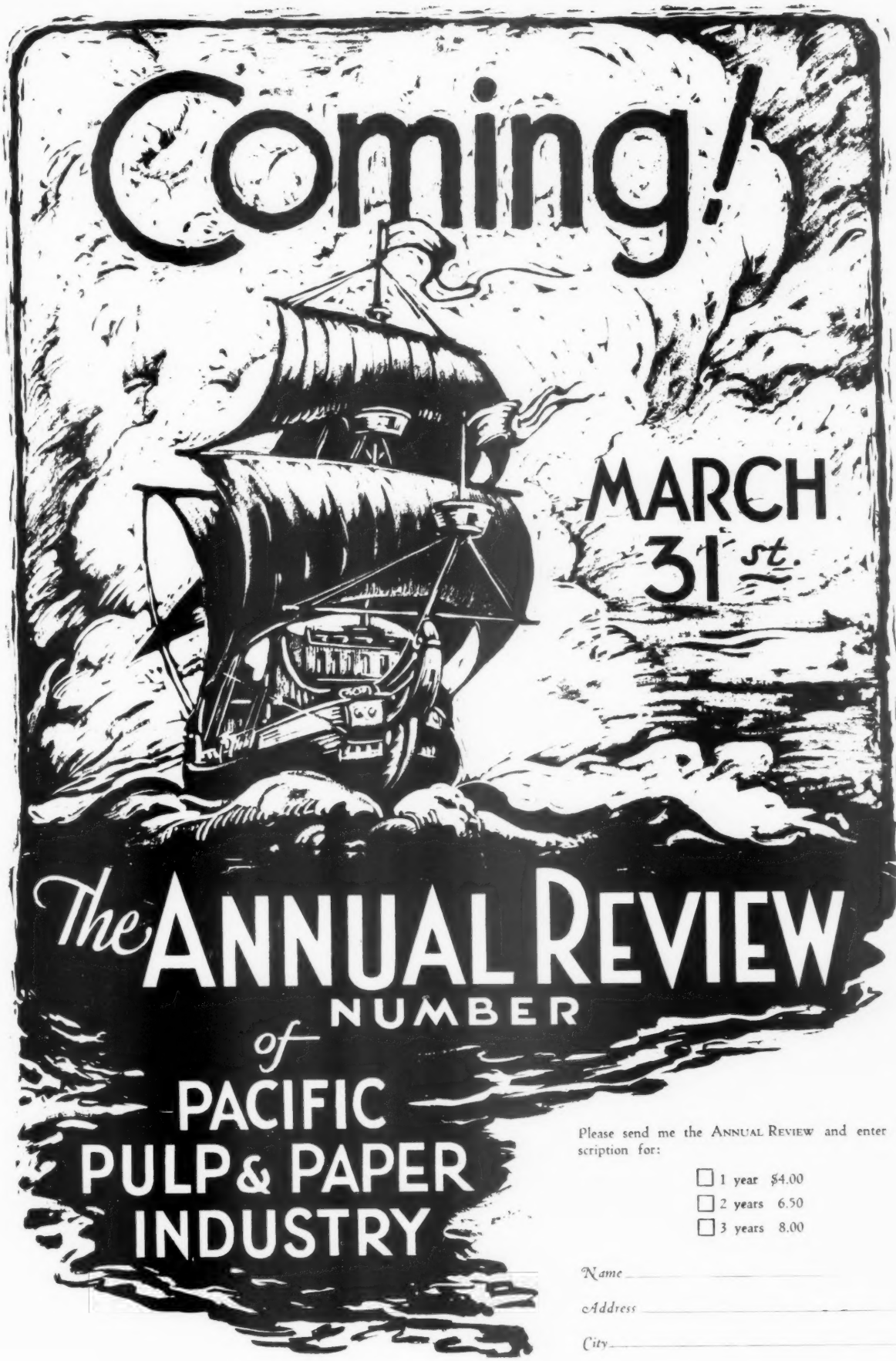
Vice-President — Allen Abrams, Marathon Paper Mills Company, Rothschild, Wisconsin.

Secretary-Treasurer—R. G. Macdonald, 370 Lexington Avenue, New York.

Executive Committee—
Includes the above, Mr. Kimmel as chairman, and:

G. N. Collins, International Paper Company, New York
J. S. Bates, Price Brothers & Company, Ltd., Quebec, P. Q.
R. Bell-Irving, Powell River Company, Ltd., Powell River, B. C.
C. C. Heritage, Oxford Paper Company, Rumford, Maine
W. O. Johnson, Strathmore Paper Company, Woronoco, Massachusetts
J. H. Slater, Escanaba Paper Company, Escanaba, Michigan
J. F. Rhoades, Mead Corporation, Chillicothe, Ohio.

Mr. Bell-Irving is the only Pacific Coast representative. He is resident manager of the Powell River company.



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Crown Zellerbach Earnings

Crown Zellerbach Corporation reports gross profit of $8,078,341 for the first three quarters of the fiscal year, according to an official letter to stockholders. Net income, after all prior charges and preferred dividends, amounted to $564,522 for the nine months' period which ended January 31, 1931.

For the third quarter, profits before depreciation, depletion, interest and taxes amounted to $2,185,939. Depreciation, depletion, bond taxes totaled $1,568,579; minority taxes totaled $158,579; minority stockholders' interest $419,839, leaving $197,521 net income available.

In the letter to stockholders, President I. Zellerbach made the following comment:

"In the third quarter, the company retired bonds and timber purchase notes to the amount of $712,000, including bonds retired February 1, and anticipated its obligations in respect to the ten-year 6% debentures by purchases in the open market. A conservative policy with respect to depreciation reserve is being continued, by which policy substantial sums are being made available for funded debt retirement and working capital.

"We are glad to say that the month of January showed an improvement over the previous two months of the third quarter."

Crown Willamette Paper Company and its subsidiaries, including Pacific Mills Ltd., reports a profit for the three quarters ending January 31, 1931, of $5,559,928, taken before depreciation, depletion, interest and income taxes. Consolidated net income for the nine months after all charges is $1,862,549.

J. J. Herb On Tour of the Orient

Going mostly for pleasure, but intending to take care of some business matters at the same time, J. J. Herb, president of the Westminster Paper Company, Ltd., New Westminster, B. C., and the Pacific Coast Paper Mills at Bellingham, Washington, left his desk on February 21st to make an extended tour of the Orient. He will not return until about June 20th.

Mr. Herb first went south by way of San Francisco and Los Angeles. He then sailed for Honolulu, Australia, New Zealand, the Philippines, China and Japan. Returning, he will come by way of Vancouver, B. C. He is accompanied by Mrs. Herb.

In rebuilding the New Westminster mill following a destructive fire about two years ago, Mr. Herb has been kept unusually close to his work and the present voyage is intended to serve the purpose of restoring health.

Meanwhile, both of the Herb mills are plugging along at exceptional capacity. The New Westminster mill is managed by Elmer M. Herb, and the Bellingham mill by another son, Paul Herb. The first named mill, in particular, has been steadily building up an export business on its converted tissues in the Orient and Antipodes.

B. C. Mills Face New Tax Levies

Taxation problems are besetting British Columbia pulp and paper manufacturers, but the most serious ones are chiefly theoretical. The taxes that are causing the most worry are not those already levied, although those are hard enough to bear, but the taxes that are threatened—these are the ones that are graying the hairs of executives and causing them to write strenuously worded telegrams and form deputations of protest.

The latest threat is an impost on sulphur, used in large quantity in all the newsprint and pulp plants of British Columbia. The Canadian government seeks to tax imports of sulphur for two reasons—to raise revenue and to stimulate the use of Canadian pyrites for sulphur extraction purposes. British Columbia mills now import practically all the sulphur they use from Texas.

According to mill operators, the use of pyrites would be impracticable as it would have to be used in too large a quantity to obtain sufficient gas. Costly changes would have to be made in handling equipment. Rather than make these changes most of the companies would probably pay the duty and continue the use of the imported sulphur. Thus the pyrites industry would gain no benefit.

The other threat, regarded as a more important menace, is a tax on fuel oil. This was contemplated last year by the provincial government, but was abandoned when the question arose as to whether the province had authority to levy such a duty. Now, however, the Dominion government is said to be figuring on such a levy and the Dominion, of course, would have jurisdiction to do as it pleased. The provincial government has urged the Dominion to take such action as a means of developing the trade in domestic coal, which has languished in recent years because of the increased consumption of fuel oil. When this measure was first considered by the provincial government representations were made by the Powell River Company, Pacific Mills, and B. C. Pulp & Paper Company against the proposal on the ground that it would cripple development of the industry already suffering from high production costs. The government had anticipated a tax of about three cents a gallon, which would have returned a revenue of approximately $500,000.

Of more indirect concern to the pulp and paper industry is the proposed increase in the gasoline tax, which would increase operating costs of many of the smaller logging concerns producing pulp wood which operate with gasoline engines.

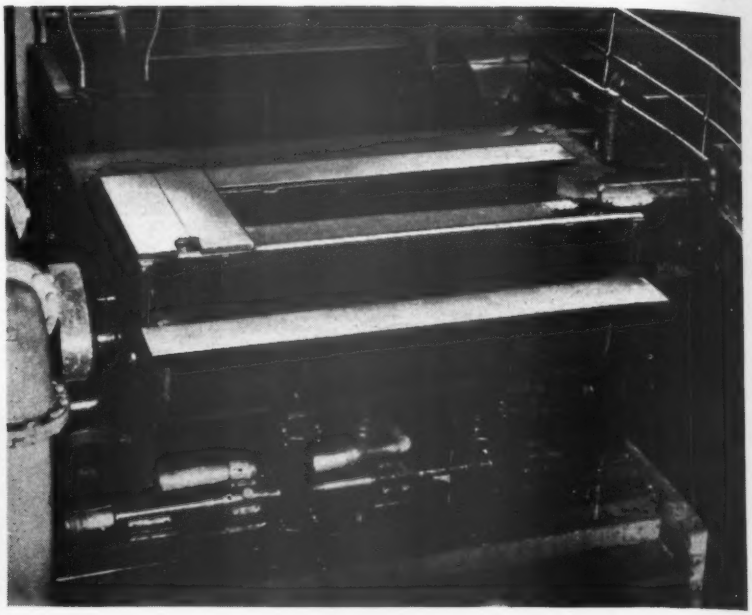
German-Finnish Pulp Mill Nears Completion

The pulp mill at Kexholm, Finland, controlled by the German Zellstoff/Waldhof company, one of the largest German pulp producing companies, is expected to be finished in the spring and go into full operation by July, 1931, according to a recent report from Trade Commissioner William T. Daugherty, Berlin. Its output, however, will be regulated by terms of the international pulp agreement and lowered therefore on the basis of 1929 production in then existing plants. A capacity of 72,000 tons annually envisages an initial annual production of but 60,000 tons (metric ton of 2,205 pounds). While it was originally intended to sell this Finnish production through the German key plant, this will not occur now, as the latter has joined the German pulp syndicate. In addition to pulp for papermaking, the Finnish plant is reported as prosposing to produce a quality line for the chemical and rayon industries. It is possible that Zellstoff/Waldorf will eventually transfer its central administraiton to Berlin, where combined interests of the Germany pulp and paper industry are already concentrated.

Rainier Mill Down for Few Days

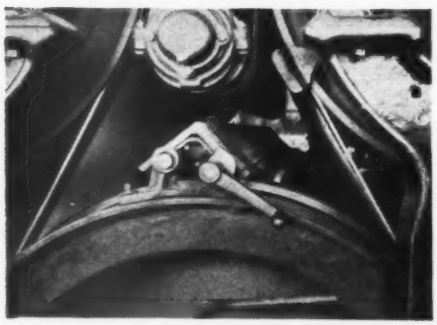
The Rainier Pulp & Paper Company closed its mill for a few days in February. Changes in production routine following the change over from bleached sulphite to rayon grade pulp, "Rayonier", has caused some temporary congestion in warehousing due to changes in drying. Orders to cover full production of the plant on the new grade are said to be on hand. On the new Rayonier grade the plant has a daily capacity of about 110 tons.

Crown-Willamette uses 65 units of BIRD MACHINERY *in Camas Mill*



Bird Screens at work on No. 11 machine, Camas mill.

One of 5 Vickery Felt Conditioners keeping felts continuously clean and open.



A Vickery Doctor at work on a dryer roll.

THE Coast's largest and most modern mill is a heavy user of Bird Machinery. At Camas, Washington, Crown-Willamette's eleven machines get 400 tons of stock a day through Bird Screens; their rolls are kept clean by 38 Vickery Doctors; their felts are kept open and absorbent for continuous high-speed production by 5 Vickery Felt Conditioners. Three Bird Pulp Screens handle the pulp.

Twenty-one units of Bird Machinery are at work on Crown-Willamette's other great machines.

For continuous production, at high speeds and at low costs, the world's greatest mills choose Bird Machinery.

BIRD MACHINE COMPANY

South Walpole ▼ Massachusetts

4767

Pulp Legislation by Washington Lawmakers

Far-reaching legislation of interest to the pulp and paper industry of the state of Washington was proposed in the Twenty-second biennial session of the state legislature, which, as this was written, was scheduled to adjourn March 12.

As the final days of the session approached, a majority of these measures were caught in a last minute law jam, and relegated to pigeonholes. Although indications were that the actual number of bills enacted into law would be few, the measures, on the whole, outlined a constructive program of legislation affecting the pulp and paper industry, which, eventually, may be placed on the statute books of the state.

As adjournment approached, one of the bills had been passed by both houses and sent to the governor for signature, one joint memorial had been sent to the national Congress, and four other bills were being considered in various committees of the two houses. Of these six measures all but one—the attempt to prohibit discharging pulp wastes into Puget Sound—were of a constructive nature.

The fued between the oyster culturists and pulp and paper interests of lower Puget Sound broke into the legislature with the introduction of Senate Bill 156, designed to prohibit the discharge of pulp mill waste into the Sound waters south of the Narrows at Tacoma.

The bill admittedly was sponsored by the oyster men, continuing their three-year fight against the Rainier Pulp & Paper Company, Shelton. Oyster men charge that the liquor discharged from the mill has damaged the oyster beds. Mill officials deny it.

Two reforestation and forest preservation measures held legislative interest, the yield tax bill and the sustained yield bill.

Senate Bill 23, the yield tax bill, places an area fee and a yield tax on certain portions of timber land classified as reforestation areas, and removes all other taxes except the levies of the national government and for fire protection. This measure, as transmitted to the governor, provides a system of assessment and taxation, which would encourage the growth of new and immature forests, and would enable owners to bear the taxation burden during the growing years. The State Forestry Board would determine what lands should be classified as reforestation lands. Classification of lands would be confined to those areas unquestionably chiefly suitable for reforestation purposes.

Classified reforestation lands lying west of the Cascade mountains would be assessed $1 per acre and those east of the mountains at 50 cents per acre. Before timber on reforestation lands could be harvested, the owner must file a bond or deposit cash to guarantee the payment of the 12½% yield tax also provided in the measure.

Sponsors of the bill point out the measure is advantageous from the owner's point of view because, under the proposal, taxes become due at logging time when the owner is best financially able to pay. The annual area payment is a fee and not a tax since it is in no way affected by the value of the land or forest crop. Its chief benefit to the owner lies in the fact that it is a definite fixed amount.

This measure is practically identical with the Oregon reforestation law recently enacted. Both are based on the Michigan law of 1921. The measure was first introduced in the Washington legislature in 1925, but it was impossible to enact it into law until the passage of the constitutional amendment allowing the re-classification of land, which was approved by the voters at the last election.

The "sustained yield" forest conservation bill, requested by Clark V. Savidge, commissioner of public lands, was designed to place the $15,000,000 state timber stand on the Olympic Peninsula on a perpetual crop basis by regulating the sale of timber and by placing restrictions on the methods of logging.

A salient reason for Savidge's legislation was to give some "raw material insurance" to the pulp and paper industry by regulating the logging operations to eliminate the present waste of the fast-growing Western hemlock, used in pulp making, now worth little from a merchantable point of view, but which are destroyed in logging larger trees.

With the depletion of the eastern forests and the interest of eastern capital in Western timber and with pulp and paper development growing on the Coast, Mr. Savidge considers it imperative that the pulp wood supply must not be impaired.

The bill provides an appropriation of $70,000 for a careful topographical survey of the 82,000-acre Olympic Peninsula area, and for the division of the land into its natural logging units. The survey would further include the ascertainment of the cutting cycle based on perpetual annual crops. The land itself would remain state property and could not be sold.

Expenses of administering the block would be paid from the receipts of its timber sales, according to Mr. Savidge's plan.

As Senate Bill 37, the sustained yield plan was passed unanimously by the Senate early in the session and sent to the House, where the committee on forestry and logged-off lands promptly reported the bill out with a favorable recommendation. The House rules committee, which decides what bills will be placed on the calendar, as promptly buried it under a flood of other legislation, with little chance of the measure seeing the light of day.

The legislature made a gesture against Russia by sending a joint memorial to Congress, protesting against importation of forced labor produced goods into the United States.

Creation of a forest products research department at the University of Washington was proposed in House Bill 354, sponsored by Dean Hugo Winkenwerder of the University college of forestry. The bill provided for an appropriation of $30,000 with which to conduct the investigation, and because of the money requested, the bill was side-tracked in the House appropriations committee.

Senate Bill 14 was a forest fire protection measure.

Other measures introduced affected the pulp and paper industry indirectly, but the above mentioned proposals were of most vital importance to the industry. A majority of the bills were meritorious and would probably have passed in a legislature not at loggerheads over more urgent measures.

Wood-Industries Headquarters In Portland

Abbey's Lumber Register have moved their Portland offices to more spacious quarters in the Terminal Sales Building, 12th and Morrison Streets, an important lumber headquarters in Portland. Thirteen lumber and affiliated companies have their Portland offices in this new building which provides parking for its tenants in the basement garage.

The Terminal Sales Building also has a postoffice in the building. It is under the management of Stephen A. Hull, well known building operator of the Northwest. The Terminal Sales Building, Seattle, Washington, is under the same management as the Portland Building.

Crystal clear.

Smooth. Clean. Everett Super Book is a book paper with a super surface. It meets in a thoroughly satisfactory way the frequent demand for a medium high printing surface where a special sensitivity to halftone impression is desired, with a resultant extra-sharpness as well to line engravings and type. No matter to what use it may be put —booklet, pamphlet, folder or broadside — Everett Super Book lends a decisive clean-cut appearance to the printed piece.

Everett Super Book

RELY ON EVERETT

EVERETT PULP & PAPER CO.

Home Office and Mills: Everett, Washington

Sales Offices: 244 California St., San Francisco . . . 311 So. Spring St., Los Angeles

Everett papers may be obtained from the following paper merchants:

SAN FRANCISCO
Blake, Moffitt & Towne
Zellerbach Paper Company

LOS ANGELES
Blake, Moffitt & Towne
General Paper Company
Sierra Paper Company
Zellerbach Paper Company

OAKLAND
Blake, Moffitt & Towne
Union Paper Company
Zellerbach Paper Company

SACRAMENTO
Blake, Moffitt & Towne
Zellerbach Paper Company

STOCKTON
Zellerbach Paper Company

FRESNO
Blake, Moffitt & Towne
Zellerbach Paper Company

EUREKA
Humboldt Paper Company

SAN JOSE
Blake, Moffitt & Towne
Zellerbach Paper Company of San Jose

LONG BEACH
Blake, Moffitt & Towne
Zellerbach Paper Company

SAN DIEGO
Blake, Moffitt & Towne
Zellerbach Paper Company

PHOENIX
Blake, Moffitt & Towne
Zellerbach Paper Company

TUCSON
Blake, Moffitt & Towne

PORTLAND
Blake, Moffitt & Towne
Zellerbach Paper Company

EUGENE
Zellerbach Paper Company

SALEM
Rodgers Paper Company

MEDFORD
Blake, Moffitt & Towne

SEATTLE
Blake, Moffitt & Towne
Zellerbach Paper Company

TACOMA
Standard Paper Company
Tacoma Paper and Stationery Company

SPOKANE
B. G. Ewing Paper Company
John W. Graham & Company
Spokane Paper & Stationery Company
Zellerbach Paper Company

YAKIMA
Blake, Moffitt & Towne

BOISE
Blake, Moffitt & Towne

BILLINGS
Carpenter Paper Company of Montana

DENVER
The Carter, Rice & Carpenter Paper Company

SALT LAKE CITY
Zellerbach Paper Company

AUCKLAND, N. Z.
Brown & Stewart, Ltd.

HONOLULU, T. H.
Honolulu Paper Co., Ltd.
Patten Company, Ltd.
Theo. H. Davies & Co., Ltd.

MANILA, P. I.
J. P. Heilbronn Company

T-R-A-D-E - T-A-L-K

Devoted to the Paper Trade of the Western States

Trade Association Offices Moved

Offices of Secretary H. Arthur Dunn of the Pacific States Paper Trade Association were removed, effective Monday, March 2, 1931, to 311 California Street (near Battery), Room 507, Robert Dollar building, San Francisco, California. The telephone number is unchanged, Garfield 6524.

Away to Del Monte In May

The fourteenth annual meting of the Pacific States Paper Trade Association will be held at the Hotel Del Monte, Del Monte, California, Wednesday evening, May 13 to Saturday, May 16, inclusive.

The customary procedure will be followed, of dividing the time between business sessions and the usual golf tournament, the qualifying round of which, however, will take place on Tuesday morning, May 12. This will be the thirteenth annual golf tournament of the Pacific Coast Paper Manufacturers, and the committee will later give full particulars concerning it.

The joint meeting of merchants and manufacturers, which has become an established feature of the meetings, will be held on Wednesday evening, May 13. The mutual benefits derived from this contact will be an incentive to all to avail themselves of this opportunity to exchange ideas for the betterment of the industry.

Ample provision will be made for recreation and for the entertainment of the ladies, who are always welcome.

The annual dinner-dance of the Association will take place on Friday evening, May 15, and the annual golf banquet and award of prizes on Saturday evening, May 16.

Tentative reservations have been made at Hotel Del Monte, but it will be necessary for prospective delegates to advise H. Arthur Dunn, secretary of the Pacific States Paper Trade Association, promptly of definite room requirements to be assured of comfortable accommodations.

Los Angeles Jobbers Well Stabilized

From authoritative sources in Los Angeles it was learned recently by PACIFIC PULP & PAPER INDUSTRY that the fine paper merchants of Southern California will make some adjustment in resale prices on out-of-stock sales before April first.

New catalogues have not been issued for more than a year, during which time varying mill costs, adjustments in freight rates, etc., have made changes necessary. These changed conditions will be passed on by the paper merchants to their printing customers, with the expectation that such a move will have a stabilizing effect on the market.

Galloway Returns From Trip

A. B. Galloway, manager of the Western Paper Converting Company, Salem, Oregon, with headquarters in Portland, returned to his desk early this month, following a two months' southern and eastern business trip.

New Oregon Distributing Firm

L. M. Whitely and Paul W. Clark, who recently opened the Whitely-Clark Company, Portland, have been named Oregon and Southwestern Washington distributors for Mosinee "Doubltowls", manufactured by the Bay West Paper Company of Green Bay, Wisconsin. Although Messrs. Whitely and Clark, formerly connected with the local Packer-Scott Co., in the capacity of credit man and field salesman, respectively, have been established only a few months, they already have five men on the road. In addition to paper, the company handles janitor supplies, twine, etc.

Nashua Men Escape Cold Weather

Neil B. Sinclair, Los Angeles, Pacific Coast manager for the Nashua Gummed and Coated Paper Company, and James F. Nields, San Francisco, representative of the same concern, returned recently from their annual trip to the factory at Nashua, N. H., and both were glad to get back to the Coast. The week before they arrived at Nashua, it was 26 degrees below zero there. Sinclair and Nields returned home across Canada, stopping at Seattle and Portland. Both expect to do a good business this year on the Coast.

New Los Angeles Home Doing Well

Buckley-Lynch Paper Company, Los Angeles, have recently taken on a new line of book paper—Ticonderoga text, manufactured by the Ticonderoga Paper & Pulp Company, Ticonderoga, New York, which is said to be going very well.

According to C. W. Lynch, Buckley-Lynch Company, the new paper makes a good announcement line with deckle edges. Mr. Lynch states that February, although a short month, was the best in the history of the newly formed company.

General Company Distributing Miami Line

A new line of eight bright, brilliant colors in enameled book, called "Brilliantone" is being handled by the General Paper Co., Los Angeles. The paper is manufactured by the Miami Valley Coated Paper Company, Franklin, Ohio. The General Paper Company stated that the trade has been very receptive to the new paper.

The company made up their own sample books of the new paper themselves, with the use of a paper cutter, thus saving considerably on the cost of getting out the booklets.

Everett's New Super Book

The latest of the broadsides featuring Everett Pulp & Paper Company's book papers is printed on Everett Super Book. This paper has a super-surface and is designed to meet in a thoroly satisfactory way a demand for a medium high printing surface where extra good half tone impressions are desired. This sheet is characteristic in its fineness of the general improved quality of all Everett papers, following a recent "tuning up" of production processes in the mill.

This giant Timken Bearing will carry more load than 100 freight cars—8 million pounds!

Timken's well-known ability to lick industry's tough jobs in all types of machinery is continually leading to tougher and tougher assignments.

How tough some of these assignments are is indicated by the giant Timken Bearing pictured above.

It is one of 28 supplied to a large steel company for use in a 96" plate mill—one of the largest machines of its type ever built. The bearing measures 4 feet 1½ inches outside diameter, 2 feet 5 inches in width and has a bore of 2 feet 5½ inches. It weighs 3½ tons and will carry a load of 8 million pounds at 30 RPM.

And the bearings that meet the steel industry's severe requirements are also depended upon to lick the paper industry's toughest jobs in paper making machines, fourdriniers, dryers and all other equipment, for it isn't only a matter of size, but of *principle* —Timken tapered construction.

TIMKEN
Tapered
ROLLER BEARINGS

The Timken Roller Bearing Company, Canton, Ohio.

Larimer Lectures on Paper Industry

So few people know the various processes that are employed in the manufacture of papers and paper products.

The paper industry is fourth in size counting the conversion into various paper products.

For the past several years Lee Larimer, assistant advertising director of Zellerbach Paper Company, has been carrying on an educational program, presenting two educational pictures on the manufacture of various papers before printer organizations, craftsmen clubs, advertising clubs and advertising groups as well as service clubs, in cities located in northern California.

These illustrated motion pictures show the processes employed in the manufacture of S. D. Warren standard printing papers and Hammermill utility papers.

Mr. Larimer gives a talk along with these films and explains in detail the many steps that a tree goes through from the time it is felled in the forest, through the various machines in the paper mill unitl it comes out finished paper.

A few facts on the paper industry which Mr. L. L. Larimer brings up in his talk are:

In the latest figures issued by the United States Department of Commerce we find that there has been a notable increase in the consumption of paper and paper products over previous years.

In the year 1929 paper and box board products in the United States expressed in tons were—11,090,543 at a value of $897,522,605.00.

If this enormous production of 11,090,543 tons were reduced to carloads and loaded into cars twenty ton each of standard length, which is forty-one feet six inches, this would require 554,527, freight cars which would extend in length 4,358 miles. If these cars were made up into one train it would extend from San Francisco to Philadelphia and then down the Atlantic Coast to Miami.

The consumption of paper in the United States has mounted upward at an unprecedented rate. Today the United States consumes nearly 60% of the paper manufactured in the world.

The educational work is a comparatively new service which the Zellerbach Paper Company have started and it has proven very helpful in acquainting those in the graphic arts industry with the product which is used daily in the production of printing and advertising.

A New Oxford Mailing Piece

Blake, Moffitt & Towne, thru its seventeen distributing branches on the Pacific Coast, last month distributed an effective mailing piece illustrating the uses of the papers manufactured by the Oxford Paper Company. The broadside, printed on Oxford dull coated, ivory, 25x38—140M—specifically showed the uses of this grade for type, aluminum and silver printing, color halftone, line engravings, and color process work.

Fox River Representative On Coast

Making his first visit to the Pacific Coast, Smith McLandress of the sales department of the Fox River Paper Company, Appleton, Wisconsin, spent several weeks on the Western shore in February and March. He came out via the California route and went north. He took opportunity to visit a number of the mills. And, of course, he likes it out here.

Ben Levison, San Francisco paper mill representative, spent part of March on a trip into the Pacific Northwest.

LEE LARIMER
Zellerbach Paper Company

Texas Business Has Been Good

E. C. Balaam, now vice president of the Verhalen Paper Co., Inc., Harlingen, Texas, and formerly on the Pacific Coast in sales, writes:

"Naturally, I am always very much interested in receiving PACIFIC PULP AND PAPER INDUSTRY as it brings back many remembrances of Seattle and the Pacific Coast and, of course, news of the many friends whom I have out there.

"We feel that here, in South Texas, that we have not really suffered the depression as many other parts of the country has suffered it. This particular section of the country is having such a general increase in business every year that the depression we are having now is felt more in the lack of ready money than in the lack of business.

"We, of course, are buying a great many items from the Pacific Coast Mills and feel very kindly toward them. However, on account of the much better service, we do buy a lot of items from New England and Eastern states mills."

NEW OFFICERS—1931
National Paper Trade Association

Elected at annual convention, New York, February 16-18

President—
A. W. Blackman, D. F. Munroe Company, Boston, Massachusetts.

Vice-President in Charge of Fine Paper Division—
J. F. Miller, Chope-Stevens Paper Company, Detroit, Michigan.

Vice-President in Charge of Wrapping Paper Division—
S. L. Wellhouse, National Paper Company, Atlanta, Georgia.

Treasurer—
Charles Addoms, Miller & Wright Paper Company, New York.

Executive Secretary—
Frank E. Floyd, 420 Lexington Avenue, New York.

The only Pacific Coast men appearing in the attendance records at the 1931 convention were O. W. Mielke, president, Blake, Moffitt & Towne, Portland, Oregon, and Henry L. Zellerbach, president, Zellerbach Paper Company, San Francisco.

E. C. Bogren, Portland manager of the Western Waxed Paper Company, and Cecil Billing, local company sales manager, have returned to their respective desks, following a San Francisco business visit.

ZEE and Zalo again choose "CLEVELANDS"

THE fact that The Crown-Willamette Paper Company selected Cleveland Speed Reducers once may be of no great significance. But the fact that these makers of "Zee and Zalo" paper products ordered "Clevelands" once, twice, again and again and again, until 22 of these units now turn the wheels in the newly expanded plant, IS significant.

Because, like many others, Crown-Willamette engineers have found that "Clevelands" can be depended upon to deliver continuous, uninterrupted service under the gruelling demands of paper mill production.

When a speed reducer gives unfailing service at lowest cost purchase price, depreciation, operation and maintenance considered—its owners are receiving every advantage that a speed reducer can offer. Over 4,000 engineers in every line of industry will tell you that "Cleveland" is that speed reducer. For complete details get in touch with the nearest "Cleveland" representative or write for Bulletins 110 and 108.

CLEVELAND WORM & GEAR COMPANY

3255 EAST 80th STREET · · CLEVELAND, OHIO

"Cleveland Worm Gearing—the Ultimate Drive"

Four Cleveland units connected to four banks of flat screens in Crown-Willamette screen room.

Cleveland Reducer driving Special Conveyor, New Bleaching Department, Crown-Willamette Paper Co.

PACIFIC COAST REPRESENTATIVES

THOMAS MACHINERY CO.
912 E. 3rd St.
Los Angeles, Calif.

KENNETH B. HALL
355 Everett St.
Portland, Oregon

BERG EVANS CHAIN CO.
1742 First Ave., South
Seattle, Wash.

3255

New Types
New Models
New Machines

EQUIPMENT

Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

New Dealers
New Branches
Appointments

Farnsworth Will Visit Pacific Coast

To explain to Pacific Coast mills several new types of equipment recently developed in the field of heat reclamation, fuel saving and efficient drying, by the Farnsworth Company of Conshohocken, Pennsylvania, E. G. Farnsworth, member of the firm, will spend most of the next three months visiting the Far Western states.

F. C. Farnsworth, president and general manager of the Farnsworth Company, advises that their company has recently improved and further refined the Farnsworth Drying system.

"We are very well pleased," President Farnsworth states, "with the way representative consulting engineers and mills are endorsing our system. We equipped 13 new paper machines last year in addition to a great number of old machines in the United States, Canada and Europe. We mention '13 new machines' because not all realize that many new machines were installed last year."

Farnsworth Company has also developed a feed water heater with an entirely new principle utilizing the Venturi ejector principle for mixing the steam directly with the water. Mr. Farnsworth states that the heater has proven to be a very efficient de-aerator. It is noteworthy for its extreme simplicity.

The company has also developed a steam purifier and oil separator for extracting moisture, oil, dirt, and other undesirables from steam.

The items mentioned are only a few of the several types of equipment which make it possible for the Farnsworth company to create special systems of heat reclamation for saving fuel and increasing drying and heating capacities in paper mills.

Lockport Felt Installing Wide Loom

The widest American-made loom is being installed in the factory of the Lockport Felt Company, Newfane, New York, it is announced by William H. Lee, treasurer and general manager.

Last month the company had a big festivity to celebrate the fortieth anniversary of the incorporation of the firm, the 35th anniversary of Joseph Robinson as superintendent, and the 25th anniversary of Mr. Lee in his present capacity, all of which fell on the same day. The occasion also marked the completion of an addition to the plant.

Mr. Lee also points out that labor turn-over at the Lockport company is negligible. "We seldom lose an employe except thru death or old age," he says. "An inventory of employes shows 90% of them have been with us over ten years; some as long as 35 years.

Catalog on Heusser Balances

The new Heusser Balance catalog issued by the Mine & Smelter Supply Company, Denver, provides some useful descriptive data on this line of laboratory precision instruments. The different types and auxiliary equipment are fully portrayed. The catalog is of particular interest to paper mill chemists and technicians.

Rod Mill Manufacturers Appoint Campbell

Wilburt L. Campbell, widely known in the New England paper industry has just been added to the technical staff of the Paper Mill Division of The Mine and Smelter Supply Company of Denver, manufacturers of Marcy open end rod mills which are rapidly being adapted for the beating and refining of paper pulp.

Born and educated at Berlin, New Hampshire, Mr. Campbell began his career in the paper industry as screen boy in the Berlin plant of the Brown Company. Subsequently in 18 years with the Brown Company he became beater helper, paper machine helper, backtender, and machine tender. Following this service he was with the Deerfield Valley Paper Company at Monroe Bridge, Massachusetts; tour foreman of the Warren Manufacturing Company at Milford, New Jersey; boss of the Nashua River Paper Company at East Pepperell, Massachusetts, and then mill superintendent of the St. Regis Paper Company at Oswego, New York. Having served this company for three years he resigned and has since engaged in paper research work for a number of prominent manufacturers among whom were Nekoosa-Edwards Paper Company of Port Edwards, Wisconsin; Blake and Higgins of Bellows Falls, Vermont, and other manufacturers of high grade sulphate and sulphite papers.

WILBURT L. CAMPBELL
is now serving as
Paper Specialist
with the
Mine & Smelter
Supply Company
of Denver

The rapid development of the Marcy rod mill in the paper industry has necessitated the expansion of the Paper Mill Division of The Mine and Smelter Supply Company according to O. H. Johnson, manager.

Mr. Campbell will maintain his headquarters at the company's paper laboratory in Denver where he will collaborate with Mr. Johnson and with Sidney D. Wells, consulting engineer. His services will be available without obligation to paper manufacturers interested in adapting Marcy rod mills to their beating problems.

PULP

PERKINS-GOODWIN CO.

Established 1846

551 FIFTH AVENUE, NEW YORK

TEL. VANDERBILT 2800

PAPER

Large manufacturing concern in Middlewest making pulp and paper mill machinery, sawmill machinery, and special industrial machinery desires active representative on the West Coast. Commission arrangement very favorable. Line well known and high grade. Address Box 109, Pacific Pulp & Paper Industry, 71 Columbia Street, Seattle, Wash.

Canadian Exports of Pulp and Paper, January, 1931

Canadian exports of pulp and paper in January were valued at $11,390,293, according to the report issued by the Canadian Pulp and Paper Association. This was a decrease of $4,003,065 from the previous month.

Wood pulp exports for the month were valued at $2,411,533 and exports of paper at $8,978,760, as compared with $2,577,546 and $12,815,812 in the month of December.

Details for the various grades of pulp and paper are as follows:

	January, 1931		January, 1930	
PULP:	Tons	Dollars	Tons	Dollars
Mechanical	14,545	428,227	21,820	650,696
Sulphite Bleached	16,417	1,082,398	21,619	1,681,630
Sulphite Unbleached	11,899	537,383	20,056	993,102
Sulphate	5,577	331,952	9,604	556,509
Screenings	1,096	18,615	2,211	41,647
All Other	253	12,958	------	------
	49,787	2,411,533	75,310	3,923,584
PAPER:				
Newsprint	153,362	8,641,937	199,773	11,609,926
Wrapping	1,127	110,194	1,199	128,276
Book (cwts.)	2,245	16,533	4,040	32,992
Writing (cwts.)	190	2,986	106	717
All Other	------	207,110	------	310,847
		8,978,760		12,082,758

Pulp wood exports in January were 79,018 cords valued at $712,116 as compared with 120,063 cords valued at $1,135,348 in January, 1930.

Japanese Production and Sales of Paper December, 1930

	Productions (lbs.)	Sales (lbs.)
Printing Paper, Superior quality	11,336,966	17,401,305
Printing Paper	9,516,816	12,688,753
Writing and Drawing Papers	2,762,287	3,786,583
Simili Paper	11,812,109	13,066,442
Art Paper	1,281,439	1,106,694
News Printing Paper	45,239,876	46,515,010
Sulphite Paper	4,353,771	4,244,900
Colored Paper	1,368,822	1,949,385
Wrapping Paper	9,761,652	10,656,536
Chinese Paper	1,754,302	2,183,959
Board Paper	6,151,802	6,398,169
Sundries	6,498,253	5,263,946
	111,838,095	125,261,682

Japanese Imports of Pulp December, 1930

Japan imported chemical pulp during December, 1930, as follows (amounts stated in pounds): U. S. A., 2,033,867; Germany, 737,200; Sweden, 1,083,600; Norway, 5,838,000; Canada, 7,288,000; Europe, 120,532; Denmark, 108,667; total, 17,209,866.

Imports of mechanical pulp amounted to 15,334 lbs., coming from the Philippine Islands.

Empire Mill Installs New Boiler

The 50-ton unbleached sulphite pulp mill of the Sitka Spruce Pulp & Paper Company at Empire, Oregon, has recently installed an 800 H.P. boiler. Production at the mill is reported as being maintained at a good rate, with orders ahead for several months.

THE HOTEL CONGRESS
The stopping place in Portland for Pulp and Paper Men

Sixth at Main Street
PORTLAND
OREGON
200 Rooms—200 Baths
Convenient Downtown Location.
Reasonable Rates Prevail
LOUIS E. BOGEL, Resident Manager

News Print Production—January, 1930

The News Print Service Bureau's Bulletin No. 157 states that production in Canada during January, 1931, amounted to 184,339 tons and shipments to 180,952 tons. Production in the United States was 105,527 tons and shipments 104,769 tons, making a total United States and Canadian news print production of 289,866 tons and shipments of 285,721 tons. During January, 25,586 tons of news print were made in Newfoundland and 1,087 tons in Mexico, so that the total North American production for the month amounted to 316,539 tons.

The Canadian mills produced 22,616 tons less in January, 1931, than in January, 1930, which was a decrease of 11 per cent. The output in the United States was 19,324 tons or 15 per cent less than in January, 1930, in Newfoundland 2,323 tons or 10 per cent more, and in Mexico 481 tons less, making a total decrease of 40,098 tons or 11 per cent from January, 1930.

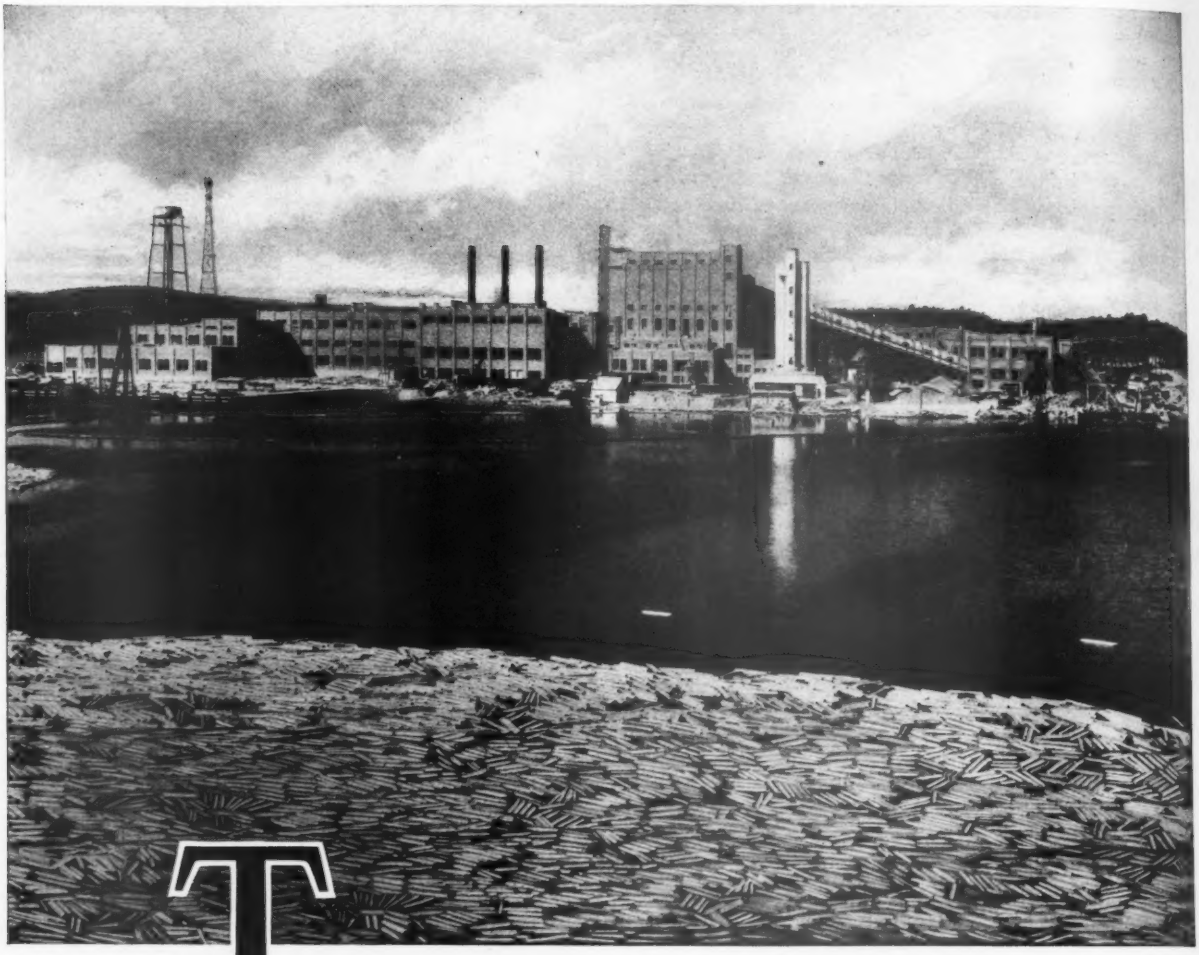
During January the Canadian mills operated at 57.3 per cent of rated capacity, the United States mills at 69.1 per cent and Newfoundland mills at 101.0 per cent. Stocks of news print paper at Canadian mills totalled 38,768 tons at the end of January and at United States mills 32,903 tons, making a combined total of 71,671 tons which was equivalent to 4.0 days' average production.

North American Production

	Canada	United States	Newfoundland	Mexico	Total
1931—January	184,339	105,527	25,586	1,087	316,539
1930—January	206,955	124,851	23,263	1,568	356,637
1929—January	214,443	123,822	20,648	1,882	360,795
1928—January	187,849	119,525	17,939	1,168	326,481
1927—January	161,724	135,395	17,506	1,112	315,737
1926—January	139,688	140,003	13,862	935	294,488
1925—January	121,605	129,442	5,352	759	257,158
1924—January	110,529	131,172	5,834	958	248,493

Merger of Swedish Wood Pulp and Lumber Mills

A new step in the concentration of the Swedish forest industry was taken recently by the incorporation of A/B Nordsvenska Bruk (North Swedish Mills Limited), which is to act as a selling organization for several pulp mills and saw mills, and also as a central buying office for such raw materials as are needed in great quantities. The bulk of the Swedish output of wood pulp is now controlled by three companies as compared with more than a score only two years ago, and it is expected that this concentration will result in stabilized prices and increased economies. The most recent combination will control a total output of 185,000 metric tons of sulphite pulp, 125,000 tons of sulphate pulp, and 135,000 standards of sawn lumber, while the combined capital of the concern is 68,000,000 crowns ($1,822,400).—(Consul General John Ball Osborne, Stockholm).



THE last word in newsprint mills . . . Maine Seaboard Paper Company, Bucksport, Maine . . . employing the last word in newsprint machines.

RICE, BARTON & FALES
INCORPORATED
WORCESTER, MASSACHUSETTS, U. S. A.
Paper Making Machinery Since 1837

New Bulletin On Ross Hoods

The J. O. Ross Engineering Corporation has issued a new bulletin, No. 17, on the Ross Paper Machine Hood. Typical installations are illustrated, among them being a recent Pacific Coast job. Construction details and explanatory data are given. Copies will be sent upon request to interested parties by the Pacific Coast office of the J. O. Ross Engineering Corporation, 311 Lewis Building, Portland, Oregon.

New Oliver-United Filter Bulletin

Bulletin No. 203 on vacuum filtration, just issued by the Oliver United Filters, Inc., is profusely illustrated with actual installations in many types of industrial plants. Informative data on construction and operating details, together with performance data, is offered in liberal fashion in the bulletin. The sheets are conveniently arranged for loose leaf filing. Bulletin No. 203 is available to those interested upon request to any of the several Oliver-United offices.

Additional Ross Equipment for Powell River

A complete Ross-Grewin System for No. 6 newsprint machine has been installed at the mills of the Powell River Company, Limited, Powell River, British Columbia. This is a repeat order, a similar system having been previously installed on the No. 5 machine.

G. D. Jenssen Moves New York Offices

Effective March 9 the G. D. Jennsen Company, sulphite mill engineers, changed the address of their New York office from 200 Fifth Avenue to Suite 4005 Chrysler Building.

Mead Representatives on Coast

Geo. H. Fay, sales manager for the Mead Sales Corporation, Chicago, accompanied by E. E. Barrett, New York company manager, spent a part of this month checking up on Pacific Northwest pulp and paper mills, making Portland and Seattle their headquarters.

The Mead Sales Corporation was recently named agents for the pulp output of the Spaulding Pulp & Paper Company, Newberg, Oregon.

Pusey & Jones Executives Visit Coast

C. Stewart Lee, vice-president of the Pusey & Jones Corporation, builders of paper mill equipment, Wilmington, Welaware, has returned to the home offices following a circuit trip to the Pacific Coast with the company's chief engineer, Mr. Coppage. The travelers came out via the Northern route, visited many of the Western mills, went south into California and thence home by the Southern route.

Cathlamet Wood Camp Reopens

Marking the partial resumption of logging operations after a layoff of three months, 40 fallers and buckers, employed by the Crown Willamette Paper Company in its Wahkiakum county pulpwood operations centering at Cathlamet, went back to work February 23 on the Elochoman line.

Fatal Accident

The Rainier Pulp & Paper Company, Shelton, Washington, had its first fatal accident on February 25 when a workman was instantly killed by a 450-pound pulp bale falling from a hoist. The Rainier mill has been operating since June, 1927.

Partial View of Flat Screen Installation at Crown Willamette Paper Company, Camas Plant
Built by SMITH and VALLEY IRON WORKS CO., Portland, Oregon

This installation represents the greatest advance in modern screening equipment thus far offered the paper industry.

TIMKEN and SKF Bearings throughout. Rigid connecting rods operating diaphragms make this screen produce more pulp at a lower operating cost.

It will pay you well to investigate this new Flat Screen.

Smith and Valley Iron Works Co.

Builders of Pulp and Paper Mill Machinery

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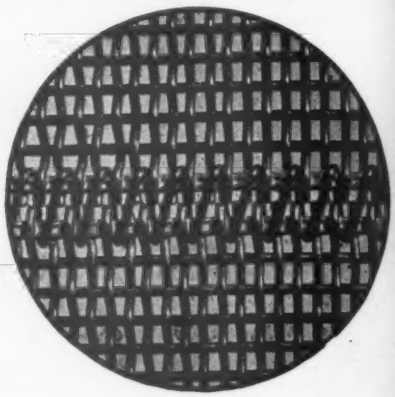

Consider This New Eastwood Seam With Big Open Suction Area

WHAT would a strong light show if you put it under the seam used on all Eastwood "Perfection" Fourdrinier Wires?

This is what you'll find: The Eastwood seam has very nearly the same suction area as the body of the wire. As you know, that makes for better operation when running on the Fourdrinier machine.

Compare the Eastwood seam shown above with the old fashioned seams. Its superiority as to open suction area and simplicity is at once apparent.

This seam is now standard on all our Fourdrinier wires, from those for 10 lb. tissue up to high speed newsprint.

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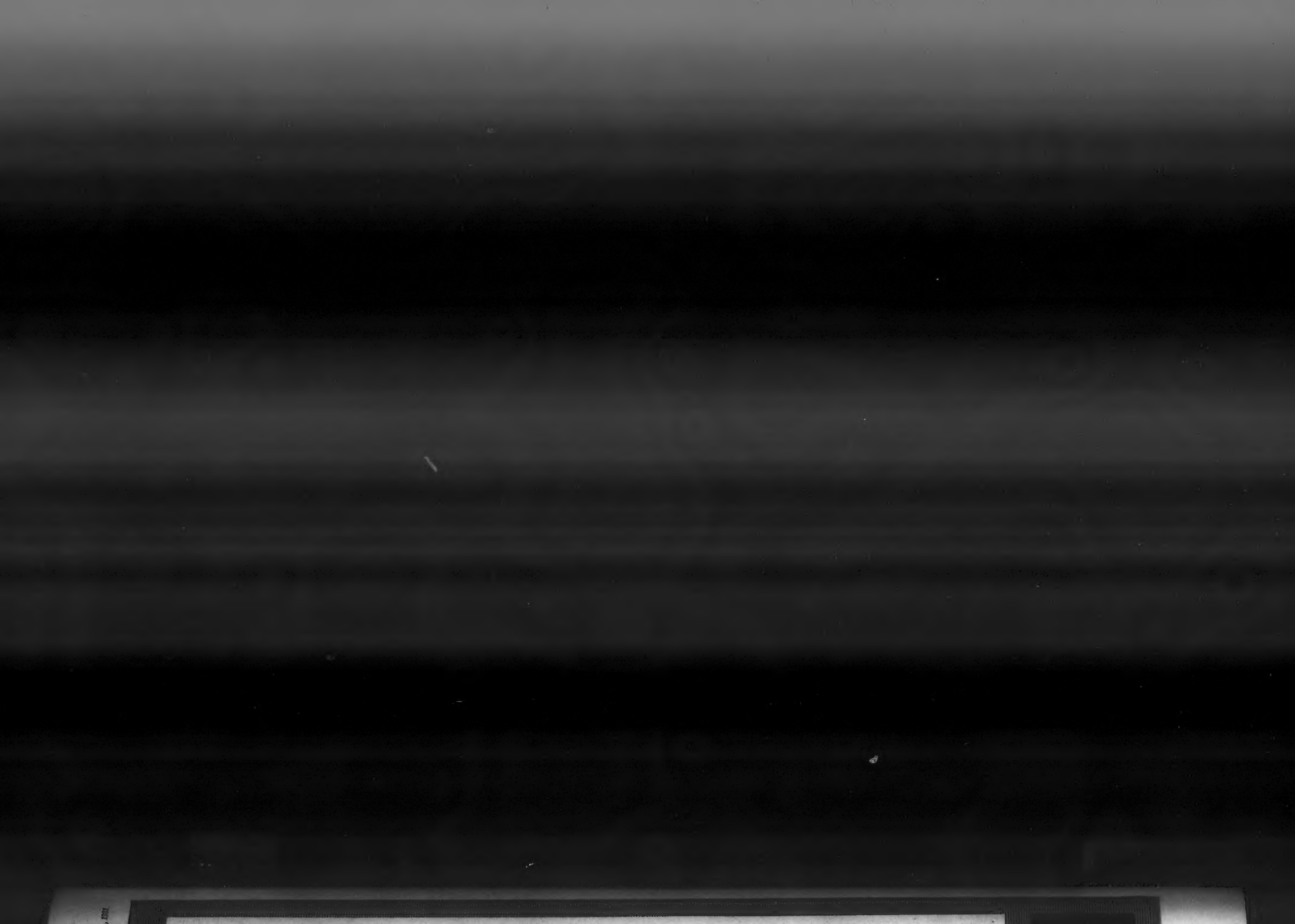
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